A Presidential Address

ON

THE SPREAD OF TUBERCULOSIS—HEREDITY OR INFECTION?

Delivered before the Birmingham University Medical Society

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GENTLEMEN,—The title of this address indicates sufficiently, I trust, the question to which I wish to draw your attention this evening. Which is the important factor in the spread of consumption, is it heredity or is it infection? To which is due the vast army of consumptives that we are daily called to alleviate if not to cure? Is consumption kept ever with us because tuberculous parents produce tuberculous children, or because consumption spreads from one member of the community to another, as we know is the case with cholera, typhoid fever, small-pox, and other infectious diseases? If the important factor in this spread is heredity, it is our duty to teach society to put the stamp of its disapproval on the marriage of children with a family history of tuberculosis. If, on the other hand, it is infection, we can only stamp out tuberculosis by the successful annihilation of the tubercle bacillus. This we are slowly effecting by teaching consumptives to destroy their expectoration and by segregating phthisis as we do patients suffering from other infectious diseases. In this difficult and protracted warfare we are helped by our Legislature, which enforces a pure air-supply to our schoolrooms, factories, and workshops, and which is endeavouring to insure a tubercle-free milk-supply to our towns and cities.

To make my thought quite clear I may say at once that, while I do not deny that both heredity and infection play their respective rôles in the spread of consumption, I am inclined to think that for all practical purposes it is the infectiousness of consumption we have to deal with, and that we may, for the most part, disregard hereditary predisposition. Or, to put the same thing in another way, I do not think that because a man dies from consumption his children are necessarily more liable to this disease than children of a non-consumptive. Their liability to consumption depends upon their exposure to infection. The infectivity of consumption is in no sense a new theory. Galen wrote about it some 150 years B.C. (200–131 B.C.). The knowledge of consumption is older still. Hippocrates' classical work on the subject was written between 460–377 B.C. It was the recognition of the contagiousness of consumption that led Koch 26 years ago to discover the cause of its contagiousness. It was because Koch recognised that consumption was infectious that he sought for the cause of the infection and found it in the form of the tubercle bacillus. The discovery of the tubercle bacillus did not start the theory of contagion. Shortly after Koch's discovery an attempt was made to settle the question which was the chief factor in the production of tuberculosis, heredity or infection? A general inquiry was instituted in the United States, England, Germany, France, Italy, Holland, and Russia. This investigation proved entirely unsatisfactory, briefly, I may say, because of the great difficulty of scientifically proving a case to be inherited and not the result of infection.

The scientific proof of heredity is well-nigh an impossibility. We should require the records of many families in which several children of tuberculous parents had succumbed to tuberculosis in spite of early removal from their parents and early separation from one another, without the possibility of exposure to other sources of infection. It is quite obvious that such conditions are impracticable. Such restrictions can, however, be employed in the case of guinea-pigs and rabbits and are most nearly approached in man in orphan asylums. The results of these animal experiments and the records of orphan asylums, as will be mentioned later, give no support to the hereditary doctrine.

Let us first turn our attention to cases of phthisis occurring in the same family, because it is just these cases that give such strong support to the importance of the hereditary factor. When, however, we carefully examine these family cases we shall find: (1) that they arise by infection carried by one member of the family to another and are in no sense the result of hereditary influence; (2) children hereditarily tainted tend to remain healthy when brought up in orphan asylums or foundling institutions; (3) in many cases of phthisis among children the disease can be traced to the foster-parents or to the step-parents and not at all to the parents themselves; and (4) often the parents show the first signs of disease years after the birth of the child, and very often the parents and children fall victims at about the same time. A detailed consideration of a few of these cases will help to make these points clear.

CASE 1.—

F. (Fam. hist. good.) —— *M., died ph., 47, 1877. (Parents died early; all collateral relatives consumptive.)

Brother, 16; died ph. 1878.	Sister, 25; died ph. 1879.	Brother, 18; died ph. 1883.	Brother, 35; died ph. (?) 1887	A.B., 31; taken ill 1889; admitted 1892.	Sister, 39; taken ill 1892 after nursing A.B. for 8 months.

F. = father. M. = mother. * = source of infection. A.B., C.D., &c. = patients. Ph. = phthisis.

A. B., aged 31 years, was admitted into hospital in 1892. The family history on his father's side was good, but his mother died from phthisis in 1877, aged 47 years, and all her collateral relatives died from the same disease. One year after the death of the mother in 1878, a brother, aged 16 years, died from phthisis; he had always lived at home. In 1879, a sister, aged 25 years, who had been married for three years, died from phthisis; she had been sick ever since leaving her parents' home. In 1883 a brother, aged 18 years, died from phthisis. In 1887 a brother, aged 35 years, died; he was said to have suffered from cough and expectoration for years. A. B. first showed symptoms in 1889. The brothers and sisters had associated together a great deal. The eldest sister, aged 39 years, nursed the patient for eight months and fell a victim in 1892, the year that he was admitted into hospital. Cases like these are frequently quoted as proving hereditary transmission of the disease from parent to child, but it will be observed that the mother showed the first signs of the disease years after the birth of her youngest child and that the children became affected all within a few years of each other at quite different ages.

CASE 2.—

F. (Fam. hist. good.) —— M. (Fam. hist. good.)

Brother, 31; healthy. Children healthy.	Brother, 32; healthy. Children healthy.	*Sister — taken ill 1885.	Husband died ph.	Brother — 29; died ph. 1886.	Wife became consumptive.	C. D., 27; taken ill 1888; admitted 1892.
		Children died ph.				

In the following case the disease was brought into the family by one of the daughters.

C. D., aged 27 years, was admitted into hospital in 1892, but he had had hæmoptysis in 1888. He had two brothers, aged 31 and 32 years, who with their children were quite healthy. In 1885 a married sister who had lost her husband and three children through tuberculosis became consumptive. A brother, aged 29 years, who had had much to do with this sister, died from hæmoptysis in 1886, and his wife also became consumptive. C. D. had associated a good deal with his consumptive brother and sister, and, as already stated, had his first symptoms of the disease in 1888.

CASE 3.—

E. F., 60; taken ill 1892 (nursed her daughter).

Healthy children.	Daughter, died ph. 1891 (associated freely with acquaintance* who died ph. 1890).

In this case the disease passed directly from daughter to mother.

E. F., a married woman, aged 60 years, had good health

until 1892 when she contracted phthisis. Her family history was excellent. She had six children, five of whom were healthy and aged from 25 to 36. One daughter had associated very freely with a tuberculous acquaintance both in working and in leisure hours. The acquaintance died from phthisis in 1890, the daughter followed in 1891 a victim to the same disease, and the patient herself (who had nursed her daughter) became consumptive the following year. The other five daughters had come but little into contact with their consumptive sister and remained in good health.

CASE 4.—

*F., died ph. 1884. —— M., healthy (away from home 6.30 to 9).

Sister, 18; died ph. 1884. Lived at home.	Brother, 20; died ph. 1884. Lived at home.	G.H., 23; taken ill 1889; admitted 1892. Lived at home.	Married sister; healthy. Away from home since 1880.

In the following case those who were least at home escaped.

G. H., aged 23 years, was admitted suffering from phthisis in 1892. His father died from phthisis in 1884 and during the same year a sister, aged 18 years, and a brother, aged 20 years, both died from phthisis. The patient lived with this brother and sister and in 1889 had his first hæmoptysis. His eldest sister married in 1880, left home, and remained healthy. His mother, aged 56 years, worked away from home all day (6.30 A.M. to 9 P.M.) and was also healthy.

CASE 5.—

*F., died ph. 1890.

Brothers, 21–29; healthy.	Sisters, 3–18; healthy.	J. K., 21 (nursed father); taken ill 1891; admitted 1892.

J. K., aged 21 years, was admitted in 1892. Her father died in 1890 from phthisis; she nursed him until his death. In 1891 she had hæmoptysis and a year later was admitted with phthisis. Her brothers, aged 21 to 29 years, and her sisters, aged 3 to 18 years—i.e., both younger and older than she—were all healthy.

CASE 6.—

M., 54 (Fam. hist. good.) —— *F., died ph. 1890, 66 (Fam. hist. good.)

Sister, 20; died ph. 1890.	L. M., 27; taken ill 1891; admitted 1892. (Nursed sister at home.)	Brothers and sister, 21–32; healthy with healthy families. (Away from home all day.)

L. M., aged 27 years, was admitted in 1892. Her mother was 54 years of age and was healthy. Her father died at 66 years of age from phthisis in 1890. The same year the death of her sister, aged 20 years, from phthisis occurred, and this sister was nursed by the patient. The patient became affected with the disease in 1891. The other children (21 to 32), i.e., both younger and older than the patient, are in good health and have healthy families. They remained away from home the entire day.

What I wish to emphasise with regard to these cases is that while they are cases in which different members of the same family have succumbed to the same disease, far from supporting any theory of heredity, they speak strikingly in favour of the doctrine of infection. In a given family, parents and children, young and old, all fall victims at much the same date, irrespective of their ages, thus showing that the infection passes from one member of the family to another, sometimes from brother to sister, or sister to brother, sometimes from parent to child, but not infrequently from child to parent. If, on the other hand, these were cases of heredity, we should not expect to find parent attacked in much the same year, but we should expect that the children would become affected on reaching a certain age, that age varying in different families. What actually occurs is that parent and child, or brother and sister of quite different ages, all succumb within a few years of one another.

Infection through marriage.—Heredity does not explain cases of infection through marriage, of which there are hundreds of cases on record. The infection is more often from husband to wife. Out of 262 cases collected by the British Medical Association 119 were cases of infection from husband to wife, and in 69 the infection was from wife to husband. Dr. Weber instances nine husbands, tuberculous before marriage, who lost 18 wives, one lost four in succession, one three, four two each, and three one each. The wives were all healthy before marriage and with one exception free from hereditary taint.

Infection through the dwelling.—Just as infection is transmitted in families and in married couples, so it often occurs amongst unrelated individuals accustomed to live together. The essential element in all such cases is the fact of living together. Such infection plays an especially important rôle amongst the lower classes with whom overcrowding is prevalent. The room need not be simultaneously occupied by the consumptive and another, for virulent tubercle bacilli have been found on the walls of a house six weeks after the death of an uncleanly consumptive. Two consumptives died in a new, fairly healthy dwelling, and within the next 12 years 12 fatal cases of consumption occurred amongst the occupants. The following case, which seems to be a case of house infection, came under my own notice.

In April, 1906, I saw two sisters who lived in Burton. The elder was suffering from chronic phthisis of about two years' duration, while the younger sister had acute phthisis of 12 months' duration. These were the only known cases of consumption in the family and on seeking a cause for their illness I was told the following. About three years before the elder sister had left home in perfect health to earn her living in Coventry where she lodged in the house of a widower whose wife had but recently died from consumption. Within three months of her going to this house she became affected with cough, expectoration, wasting, and night sweats and had to return home. The younger girl had never left home, and, to my mind, there is little doubt that she caught the disease from her sister, who imported it into the home from Coventry. The infection was a virulent one, for she died from her disease in December, 1906. The elder sister is still living.

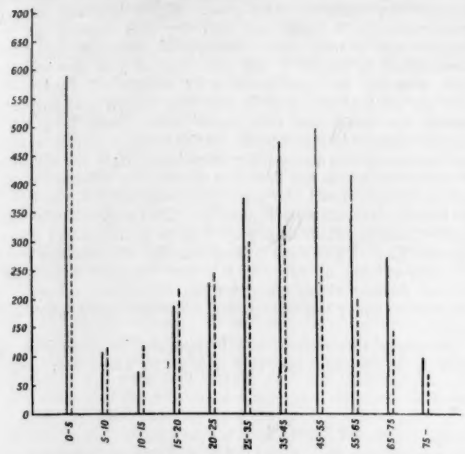
Infection of fellow labourers.—The consumptive may be a greater source of danger to his fellow workman than to his family, especially in the case of indoor occupations. The mortality is much higher in the case of indoor employees (factory hands, workshop assistants, office clerks, waiters, &c.) than in the case of outdoor employees (masons, builders, coachmen, policemen, street cleaners, &c.). The following cases came under my own observation.

I examined in January, 1907, A. G., a jeweller, aged 28 years. He was then suffering from acute phthisis of the left lung and was first taken ill at Easter, 1906. His father, brothers, and sisters were in good health but his mother had succumbed to consumption 20 years ago. At first I thought "Well, this clearly is a case of hereditary transmission," but on further inquiry I elicited the following. A. G. worked in a small workshop with 14 or 15 other hands and with one of the men, P. K., he was closely associated. These two men worked at the same bench alone and they were in the habit of using in common a camel-hair brush for soldering purposes and this brush was constantly kept in their mouths. Now P. K. had a very bad cough on his first coming to the shop, and he was known to have died from phthisis in February, 1906. In my opinion this savours far more of infection of one workman by another than of transmission from a mother who died 20 years before her son showed any signs of the disease.

E. T., a seaman on H.M.S. *Implacable*, 18 years of age, had a family history free from tuberculosis, and his personal history was quite good up to the time of his entering the *Implacable* in January, 1906. In July, 1906, he became ill and in August, 1906, was discharged invalided with phthisis. I saw him in January, 1907, and he had well-marked phthisis of both lungs. He *volunteered* the information that he must have caught his cough from another seaman, W. S., who occupied a berth alongside his own. W. S. was invalided out of the service with phthisis shortly after E. T. There are not sufficient data to express a definite opinion but it is highly probable that E. T. was infected either by W. S. or by one of the other seamen on board.

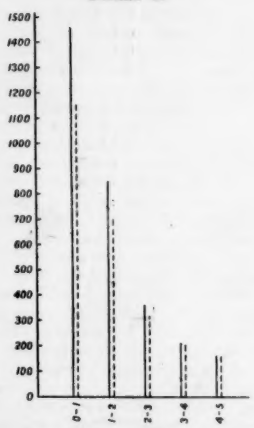
Infection through nursing.—It is the pride of many consumption hospitals to make the boast that their nurses and residents do not become infected. This, however, is not borne out by my own experience derived from living in one of London's large consumption hospitals for a period of nearly three years. I have met with not a few instances of

CHART 1.



Mortality from tuberculosis per 10,000 living in England and Wales during the 16 years 1891–1906 at different age periods. Black lines, males. Dotted lines, females.

CHART 2.



Mortality from tuberculosis per 10,000 living in England and Wales during the 16 years 1891–1906 for the first five years of life. Black lines, males. Dotted lines, females.

Mortality from Tuberculosis per 10,000 Living for 16 Years.

	Years.	Males.		Females.	
Chart II.	0–1	1467		1148	
	1–2	842		705	
	2–3	365		317	
	3–4	215		204	
	4–5	170		158	
	0–5		593		487
Chart I.	5–10	109		116	
	10–15	78		129	
	15–20	179		224	
	20–25	231		252	
	25–35	372		296	
	35–45	473		322	
	45–55	502		260	
	55–65	420		200	
	65–75	272		144	
	75 and over.	102		68	

infection both in nurses and in medical men. In the Catholic sisterhood in Prussia the yearly mortality from tuberculosis used to be 155 for each 10,000 living nurses. With improved prophylaxis it fell from 155 to 65 per 10,000. This must have been due to a diminution in the amount of exposure to infection, since all other conditions remained unchanged.

Infection of health resorts.—In Cannes tuberculosis was rare among the inhabitants before 1860; from that time, which marks the beginning of the winter invasion by consumptives, the disease has become frequent. Davos, San Remo, and Mentone, originally free from tuberculosis, have had the disease gradually imported by invalids from this and other countries. In all these instances the washerwomen and the chambermaids have been the most noticeable victims. Certain people, like the Tahiti, the New Zealand, and American Indians, first learnt to know tuberculosis from Europeans, and came to regard the coughing "white man" with terror. Such facts as these can find no adequate explanation in heredity, but, on the other hand, stand out pre-eminently in support of the contagiousness of the disease.

Influence of age and sex.—It is, however, when we come to consider the influence of age and sex that the doctrine of heredity receives its greatest blow.

Charts 1 and 2 represent the mortality from tuberculosis at different ages and are constructed from the Registrar-General's returns for England and Wales. They cover a period of 16 years—1891–1906—and satisfy at least one of the requirements of trustworthy statistics, for they represent a mortality from tuberculosis of nearly 1,000,000 out of a total population of over 500,000,000. They include all forms of tuberculosis, general, pulmonary, abdominal, and meningeal, as well as tuberculous diseases of the glands, skin, joints, bones, &c. The charts show an enormous mortality in infancy (0–5 years); higher, indeed, than at any other period of life. The death-rate falls in the second and third quinquennium and then begins to rise till it reaches its maximum between 45 and 55, when it again declines. It will be noted that the maximum mortality does not occur, as is generally thought, in the prime of life, but at the more advanced age of 45 to 55 years. The very high mortality in infancy (0–5 years) is due, as a glance at Chart 2 will show, to the enormous death-rate in the first year of life. Chart 1 seems to show that the schools are not a great source of infection; this may be a fact, but, on the other hand, the infection acquired during the school age (5–15) may swell the mortality returns of the succeding years, for tuberculosis is a chronic disease, and the chart does not show the age of infection but the age at death. For the most part the mortality amongst males is higher than that amongst females, but from 10 to 25 it is appreciably higher in females. It may be that in females the strain of puberty and of child-bearing shows itself very markedly in those who are affected with tuberculosis. The doctrine of heredity will not explain this table, for if heredity were the important factor in influencing the amount of tuberculosis we should expect that the gradually diminishing mortality observed in the first five years of life and continued through the 5–10 and 10–15 age-periods would be continued throughout life. Instead of this we find that after reaching a minimum of 10 to 15 for males and 5 to 10 for females, it begins to rise till it reaches a maximum at 45 to 55 for males and 35 to 45 for females, when it again declines. Such a curve as this cannot be explained by any hereditary influences.

Let us now consider briefly the doctrine of heredity. It is generally conceded that the children of tuberculous parents frequently become tuberculons. This by many is ascribed to hereditary influence and while some believe that the children are born with the bacilli in their system most merely assume the transmission of a certain predisposition.

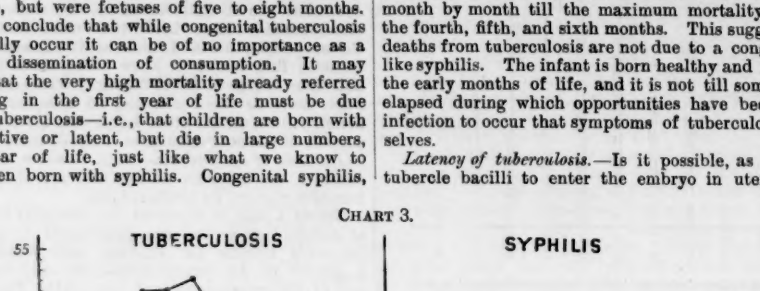
Bacillary transmission.—We will first discuss the possibility of the transmission of the bacillus to the embryo by the mother or father during its intra-uterine existence, for according to some the tubercle bacillus is present in the child at birth, but may remain latent for a varying number of years, when some temporary lowering of the individual's resistance allows the bacilli to burst into activity and cause the disease we know as tuberculosis. Now if this were so we should expect to find numerous examples of congenital tuberculosis, for theory requires that 1 in 9·5 of all children born should contain the germ of tuberculosis. Now for years the attention of pathologists has been directed to this

question, and many thousands of stillbirths and of children under one month have been submitted to examination. What is the result? There are actually less than 20 cases of congenital tuberculosis on record.

Contrast this with syphilis which we know to be infectious and hereditary. Instances of congenital syphilis from similar post-mortem examinations are numerous beyond mention. The few cases of congenital tuberculosis that have been found have occurred in women with advanced tuberculosis who have never survived their confinements by more than a few weeks. Of the cases themselves one died three weeks old, one eight days old; the others were not even born alive, but were fœtuses of five to eight months. We may surely conclude that while congenital tuberculosis may exceptionally occur it can be of no importance as a factor in the dissemination of consumption. It may be suggested that the very high mortality already referred to as occurring in the first year of life must be due to congenital tuberculosis—i.e., that children are born with tuberculosis, active or latent, but die in large numbers, in the first year of life, just like what we know to occur in children born with syphilis. Congenital syphilis, we know, gives rise to many miscarriages and stillborn children, but of those infected with syphilis and born alive the majority die in the first year. Might this not be so in tuberculosis? I think not and for this reason. If you analyse the deaths from congenital syphilis and from tuberculosis occurring in the first year of life you will find that, whereas in syphilis—a truly congenital disease—the majority of deaths occur in the first month and month by month the death-rate diminishes (*vide* Chart III.) till it becomes almost inappreciable by the twelfth month, exactly the opposite is the case with tuberculosis. Here the minimum of deaths occurs in the first month and the death-rate rises month by month till the maximum mortality is reached in the fourth, fifth, and sixth months. This suggests that these deaths from tuberculosis are not due to a congenital disease like syphilis. The infant is born healthy and remains free in the early months of life, and it is not till some months have elapsed during which opportunities have been afforded for infection to occur that symptoms of tuberculosis show themselves.

Latency of tuberculosis.—Is it possible, as some hold, for tubercle bacilli to enter the embryo in utero and remain latent till adult life, when some accidental circumstance weakens the individual and renders the soil suitable for the dormant horde of bacilli to awaken into life? In support of this view is put forward the fact that in people dying from disease other than tuberculosis, tuberculous foci, partly or completely healed, are frequently found. Such accidental findings have been placed by some observers so high that in every third or fourth non-tuberculous corpse such a focus can be found. There is, however, no proof that these foci have been present for a long time. They are probably due to post-natal infections which have become healed. It seems improbable that tubercle bacilli could remain alive but latent sometimes for 40 to 60 years, when we realise that in the laboratory bacilli cannot be kept alive for more than half a year under the most favourable conditions. But all doubts as to the extra-uterine origin of tuberculosis in infancy, to say nothing at all of its occurrence in adults, are expelled by the pathological findings. In cases of tuberculosis incontestably congenital the liver is the organ chiefly involved, and this is because the germ derived from the mother is carried to the

CHART 3.



Deaths from tuberculosis and syphilis (both sexes) in England and Wales in 1906, in the first year, per 10,000 births.

Deaths from Tuberculosis and Syphilis (both Sexes), England and Wales, 1906, in the First Year of Life per 10,000 Births.

Months.	Tuberculosis.	Syphilis.
0-1	0·8	3·3
1-2	2·7	2·9
2-3	4·1	2·1
3-4	5·1	1·3
4-5	5·1	1·0
5-6	5·2	0·8
6-7	4·8	0·3
7-8	4·6	0·2
8-9	4·6	0·3
9-10	4·2	0·3
10-11	4·1	0·2
11-12	3·9	0·1

fœtus in the blood stream, and, for anatomical reasons, passes to the liver before it is distributed to the other organs. Now in the preponderating majority of tuberculous children it is not the liver, but, as in adults, the lungs and bronchial glands that are chiefly affected, and after these organs the mesenteric glands, according as the infection is by inhalation or by food consumption. The theory of heredity, however, receives another blow from the fact that the children of tuberculous parents remain free from the disease if removed from their parents, that is to say, from the source of the infection. Thus, at an orphan asylum in Munich in 41 per cent. of the children both parents had died from tuberculosis, and in 43 per cent. either the father or the mother. In spite of this only two cases of tuberculosis were observed amongst 620 children. In an orphan asylum in Nuremberg with capacity for 100 children, many with a pronounced tuberculous taint, only a single case of tuberlosis occurred in eight years. Bernheim found that the progeny of tuberculous rabbits, guinea-pigs, and dogs became tuberculous if they remained with their parents, but on the other hand remained well if removed instantly after birth. It fell to this observer to deliver three tuberculous women of twins. In each case he had one child nursed by a healthy wet nurse living with the mother and the other child sent to the country. In all three cases the children at home died, whereas those sent to the country remained well.

Hereditary predisposition.—A majority of physicians understand by the term heredity when applied to tuberculosis not a bacillary transmission but a certain predisposition. The percentage of cases showing a hereditary predisposition varies widely from 10 to 85 per cent. according to different authorities. This discrepancy varies according as the parents only are taken into account, or the parents and grandparents, or in addition the sisters and brothers of the parents; by some tuberculosis occurring in any relative is regarded as a sign of hereditary taint. Hence the great variation 10 to 85 per cent, quoted by different authors. The mere fact, however, that the same disease has appeared previously in the family does not prove a hereditary predisposition.

Remembering that a given patient has on an average 12 close relatives (reckoning only two parents, four grandparents, one sister, one brother, and one brother and sister to each parent), it is not to be wondered at that more than one death from consumption is to be found in the same family, since we have seen that 1 in every 9·5 individuals dies from tuberculosis. To prove hereditary predisposition we must prove that in the families of the non-tuberculous consumption does not occur even approximately as often as in the families of consumptives. This has not yet been demonstrated. On the other hand, Kuthri tested the frequency of tuberculosis in the parents of 432 tuberculous and 108 non-tuberculous patients and found practically no difference in the amount of tuberculosis in the parents of these two classes. Even were it proved that the children of consumptives were more frequently the victims of tuberculosis than those of healthy parents, this would not prove hereditary predisposition; the greater frequency would be due to increased opportunities for infection. In order to prove hereditary influence one would have to remove the individual from the circle of his family and then exclude every possible chance of contagion from external sources—an impossible procedure. Bernheim's experiments on animals in which these conditions have been fulfilled have already been quoted. Before assuming a hereditary transmission from parent to child one must exclude the possibility of infection of the parent by the child. Not infrequently the disease is transmitted by the child to the parent.

When consumption appears in young people heredity apparently plays an important part, whereas in the consumption of adults infection by strangers is more commonly noticed. This is simply because when consumption appears in young people, infection generally is to be found in the family circle, while in adults separation from the family is the rule and the disease is more readily traceable to contact with strangers. Some observers make a point of the greater frequency of hereditary transmission through the mother. But again all that this means is, that the mother being in more intimate relation with the children and the home than is the father, contagion has a better chance of spreading from the mother to the child than from the father to the child. Surely, it may be urged, some people are more liable to consumption than others. Yet, on the other hand, can there be any sharp distinction between those that are susceptible to tuberculosis and those that are immune from it, when we consider that 1 in 9·5 of all persons dies from tuberculosis, and that tuberculous foci are found in numerous other bodies as well? Susceptibility or no susceptibility, the healthiest and strongest individuals with no hereditary taint fall victims to consumption. It is only necessary to recall the prevalence of consumption in athletes and of tuberculosis in prize cattle.

In conclusion, let me make it clear that I have no desire to ignore the part that heredity may play in the spread of consumption. I only wish to emphasise the fact that infection exerts a far greater influence. Heredity cannot explain:—1. Cases of phthisis occurring in the same family and obviously spreading from one member to another. 2. Cases of phthisis conveyed from husband to wife and *vice versâ*. 3. The prevalence of phthisis among the overcrowded poor. 4. The greater prevalence of phthisis among in-door as opposed to out-door employees. 5. Cases of phthisis occurring amongst individuals brought into close contact by their daily avocations, either in the home, office, workshop, or factory. 6. The prevalence of phthisis among those engaged in tending consumptives. 7. The appearance of phthisis in places now used as health resorts, previously immune from the disease. 8. The mortality from tuberculosis gradually diminishing from infancy to 10 to 15 years and subsequently rising to a maximum at 45 to 55 years.

I give prominence to what I call the "infection" factor chiefly because of its great practical importance in directing our campaign against tuberculosis. It should also exert a cheering influence, for society need not brand as dangerous those of its members in whose family some relative may have died from this disease. And yet this is constantly done. We see it in the examination for life insurance. As soon as an individual applies to insure his life, if there is any consumption in his family, he is made to pay a high premium if he be not actually refused; whereas another applicant with a good family history is passed as a first-class life, though he may be daily exposed to infection either at home through his wife and children or at his daily work. Such an individual is far more likely to fall a victim to tuberculosis than one who may have lost a near relative through this disease. This attitude adopted by insurance companies is one that reflects the views of the public, and I may say that it was just this knowledge that prompted the subject of this address.

Why the hereditary factor, which no doubt exists, falls into insignificance in the case of tuberculosis is difficult to answer, but it may be that the very prevalence of tuberculosis is the reason. No one speaks of the hereditary transmission of measles and scarlet fever, though it is more than probable that these infections have a predilection for certain families. These diseases are so prevalent that we only concern ourselves with their paths of infection and not at all with any theoretical consideration of the possibility of their hereditary transmission. This may be the same with tuberculosis. Tuberculosis is so prevalent that any hereditary tendency to it falls into comparative insignificance. From the practical point of view it is the various paths of infection that are of importance to us and not the hereditary predisposition to the disease.

THE X RAY TREATMENT OF RINGWORM OF THE SCALP,

WITH SPECIAL REFERENCE TO THE RISKS OF DERMATITIS AND THE SUGGESTED INJURY TO THE BRAIN.

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THE X ray treatment of ringworm of the scalp has attracted considerable attention recently on account of (1) the deliberations of the London County Council on the desirability of providing medical treatment of certain specified diseases in the Council's school children and the suggestion that the X ray treatment should be employed in the case of ringworm; and (2) the alarming statements which have been made in

the press that this treatment might injure and arrest the development of the growing brain. In this contribution I propose to give my experience of this treatment since October, 1904, with special reference to the risks associated with it. Since 1904, in the out-patient departments under my charge and in private I have treated or personally supervised the treatment of over 370 children, and with the exception of a few cases in 1904 treated by multiple doses, all these cases have been treated by the single dosage method based on the principle introduced by M. Sabouraud—namely, of exposing the affected areas of the scalp at a distance of 15 centimetres from the anticathode, and employing circular localisers of various sizes, and in this way over 1500 single doses have been given.

Everyone with any extensive experience of the treatment of ringworm of the scalp will agree that the x ray treatment, if successfully carried out, is the most rapid, effective, and painless method of curing the disease. It is true that a small isolated patch of ringworm of the scalp may be quickly cured by skilful needling with croton oil in the manner advocated by Dr. H. Aldersmith or by electrolysis of the diseased hairs, but when the disease is extensive such methods are not practicable. A considerable experience of the older methods of treatment in two out-patient skin departments previously to the introduction of the x ray method showed the great difficulties of curing the disease by parasiticide and irritating applications. In my own experience I regarded it as most fortunate if an extensive case was cured under a year and in a large number of the cases the time of attendance at hospital extended to several years. This was doubtless partly due to the treatment being carried out at home in a perfunctory manner, but at the ringworm school at Paris under the charge of M. Sabouraud where the affected children lived and were under constant supervision and thorough treatment by the most effective remedies then known, the average time in which a child was cured was 18 months.

By the x ray treatment, under favourable conditions and successfully carried out, a case of ringworm, however extensive, may be cured in three or four weeks and without causing either pain or discomfort to the child, and by it the average time of residence in the ringworm school has been reduced from 18 months to three months. Before the use of the x rays the average cost per child in the ringworm school at Paris was 2000 francs; by means of the rays the cost has been reduced to 260 francs. At the ringworm schools of the Metropolitan Asylums Board, under the care of Dr. T. Colcott Fox, a corresponding reduction in the time of treatment has been achieved, and according to the report in 1906, by the employment of the x rays the time taken to cure a case has been reduced from an average of 18 months to three and a half months. It is unnecessary to labour this point further than to say that since the introduction of the x rays for the treatment of ringworm of the scalp a disease which was formerly the opprobrium of physicians can now be cured in a comparatively short time, provided the scalp is not in an inflamed condition from the application of irritating ointments.

In this paper I do not intend to discuss the mode of application of the x rays for ringworm of the scalp but will simply state the method employed in the two out-patient skin departments under my charge. In 1904 in the first few cases which I treated I employed the multiple dosage method, but abandoned that in 1905 for the single dosage method which I regard as being not only far more accurate and practical but safer, since with repeated small doses an accumulated effect may take place in an uncertain manner. Since 1905 the dosage of x rays which I have employed has been regulated by the Sabouraud and Noiré pastille, which I have found invariably to be reliable. The tube stand and system employed was described and figured in the *British Medical Journal* in September, 1905, and by means of it the pastille can be turned to the standard tint in an average of 15,000 dips of the mercury break in about 15 minutes, with a tube of a tension of 6 to 7 of the Benoist radiochronometer and about half a milliampère of current in the secondary circuit. Localisers of the required length and diameter are used and the whole of the affected area is exposed piecemeal, each area after exposure being accurately covered with thin sheet lead. After the exposure a 3 per cent. salicylic acid and sulphur ointment is rubbed all over the scalp each night and in the morning a carbolic and glycerine lotion (1 in 8) is applied; on the fourteenth day, and during the third week, while the hair is falling out, the scalp is washed every morning in addition. The exposed areas should be completely bald by the twenty-first day, and the child no longer infectious. The hair begins to grow again in a fine down six weeks later, and the regrowth is complete in five or six months. The new hair is strong and healthy; it may be lighter in tint than the older hair or it may be of a darker hue, but it gradually becomes indistinguishable from it. Occasionally it comes in more curly than it was formerly. This, in short, is the sequence of events when the x rays are successfully employed, but unfortunately the operation is exceedingly delicate and difficult. It requires not only experience in adjusting the x ray system to do the work, but it necessitates great care in matching the pastille and entails a thorough knowledge of the disease to enable the operator to map out the scalp so as to include every diseased hair in the exposure.

The chief causes of failure with the method are: (1) Under exposure, accidental or intentional where the scalp has been irritated, so that an imperfect defluvium of the hair takes place and infected hairs are left; (2) omission of a focus of disease in the exposure; and (3) insufficient thoroughness in the after treatment so that infection takes place of unexposed areas as the hairs are falling out.

Certain risks have been cited from time to time in association with this treatment, of which the following are the most important: (*a*) Severe dermatitis followed by permanent baldness; (*b*) permanent baldness without obvious dermatitis; and (*c*) suggested injury to the underlying brain. With regard to these, my experience is confined to the single dosage method—namely, the employment of what may be designated as a Sabouraud pastille dose.

(*a*) *Severe dermatitis followed by permanent baldness over the affected area.*—So far as my own experience goes, I have had only one case of severe dermatitis followed by baldness over a circular exposed area. This unfortunate experience occurred in 1905 in the initial period. The case had been previously treated with iodine, which might partially account for it. Since these early days in 1905 I have had no further unfortunate experience of this nature. There are several possible causes of this accident, but the most common is over-exposure from failure to match the pastille or the use of wrong pastilles; the other causes are the exposure of an area which has been previously irritated by remedies such as iodine or chrysarobin before the inflammation has completely subsided, the use of too large a localiser so that the convex portions of the scalp are too near the tube, the overlapping of exposed areas in a restless child, or the regulation distance of the scalp from the anticathode not being preserved. It might happen, too, through mistake that one of the areas was exposed twice.

It has been asserted from time to time that idiosyncrasy plays an important part in this connexion. This factor in my experience has been greatly exaggerated, and I have been fortunate in not having met with a definite instance of it so far, but one competent authority has told me of a case. It is probably true that fine fair hair requires a smaller dose to bring it out than coarse dark hair, that the hair comes out somewhat more easily in the occiput and about the nape of the neck than in the vertex, and that the delicate hair of a child of four years of age comes out more readily than that of a child of 12 years, but my experience has been almost invariably that an imperfect defluvium has resulted when I have purposely under-exposed a scalp or a part of it. With the apparatus employed running so that a dosage of 15,000 dips of the break is required to turn the pastille there would seem to be, as a rule, a slight margin of safety which compensates for any idiosyncrasy, and if in an individual instance 14,000 might be a sufficient dose to cause the defluvium the extra 1000, though it may cause a transient erythema and bring out the hair more rapidly, does no permanent harm, so that in practice I invariably give a full Sabouraud dose. It would seem, then, that with the single dosage method severe dermatitis is simply the result of over-exposure or of not adhering to the regulation distance of the scalp from the anticathode of the tube—namely, 15 centimetres—and that it ought not to occur. Of course, accidents may happen to anyone and mistakes may be made by the most careful operator, but with proper care these should be most exceptional.

(*b*) *Protracted or permanent baldness without marked dermatitis.*—Cases have occurred in which the regrowth of the hair was much delayed or in which permanent baldness

had occurred in the exposed area without any marked inflammatory symptoms. In such cases a cicatricial atrophy of the part occurs with impairment or destruction of the hair papillæ. This is also doubtless due in most cases to over-exposure. I have so far not met with such a mishap, the only instance approaching it being an unfortunate experience in which a small area, of about the size of a shilling, in the centre of a large exposed patch has remained permanently bald. This occurred like the accident referred to above in 1905 and was caused by the central convex portion of the exposed area being too near the tube, to the danger of which I was not sufficiently alive at the time. Other instances of this accident may have occurred in my practice of which I am unaware, as it is impossible to follow up all of one's hospital cases and occasionally patients cease to attend as soon as the hair begins to grow again. It has always seemed to me strange that protracted or permanent baldness should not have occurred more often out of the 1500 exposures, when one takes into consideration the facts that alopecia areata not infrequently follows ringworm in the scalp and that this disease seems in many cases to succeed an apparently slight nervous disturbance. The fact that this accident rarely happens shows that the action of the x rays in pastille doses on the hair papillæ is comparatively slight, simply temporarily suspending their function for a few weeks.

(*c*) *The suggested risk of injuring the brain.*—Even if the risks of producing dermatitis and permanent baldness by this mode of treatment were many times greater than they are, it would be a small matter in comparison with injury to the underlying brain were that proved to take place; and if it were definitely established that the treatment by the single dosage method properly carried out resulted in permanent nervous symptoms or in arrest of development, the treatment, in spite of its advantages, would have to be discontinued. This fear, which is a perfectly natural one, and must have occurred to every one employing the treatment, has been fostered in the lay mind by all manner of vague statements, and even by alarming letters in the daily press.

Being alive to such possibilities I have so far avoided exposing a child under three years old, where the skull is very thin and the fontanelles not closed, but I am told on excellent authority that it is perfectly safe to expose even infants. I have closely watched my cases from this point of view and have tried to obtain reliable data on the subject from others who employ the method so as to find out on what these alarming statements have been based. Up to the present time my experience and inquiries on this point have been negative. A search through the literature dealing with the subject has not revealed a case in which injury to the brain or arrest of development has been proved to have directly resulted from the treatment properly applied. It is possible that such cases may exist, and for obvious reasons not have been published, but in the public interest it is of the greatest importance that such unfortunate experiences should be made known to the medical world. On questioning on the subject several of my colleagues who are in charge of skin departments and employ the x ray treatment by the single dosage method I have invariably received answers in the negative. In my own cases I have never seen nerve symptoms suggesting the slightest injury to the brain or arrest in development. By the actual exposure no sensation is produced, and children if placed comfortably on a couch frequently go to sleep during it and wake up fresh and bright. Occasionally on questioning the mother one has been informed that the child complained of a slight headache and was restless for a few hours afterwards, but as a rule this is not the case, and it can be reasonably attributed to the noise and sparking of the apparatus, to the confinement in the hot room for several hours while a number of areas were exposed, and to excitement and fright in the case of a young nervous child. It is not uncommon to find that young children are frightened at first by the noise and sparking, and it may take considerable time and patience to get them quieted down so that they will remain still during the exposure. No sensation is complained of until about the fourteenth day, when the part becomes itchy and feels hot, and a faint erythema may be noted just before the defluvium begins; these symptoms disappear in a few days and no further sensations are experienced. In hospital practice there are great difficulties in following up all the cases but this does not obtain in private practice, and if brain effects had supervened it is most probable that one would have heard of them, and even if they had occurred from some other cause the x rays would possibly have been blamed for them. In several cases boys have been x-rayed a year or more before going up for important examinations, such as the naval examination, and the treatment did not prevent their passing successfully. In a recent letter which M. Sabouraud wrote to me on the subject he made the following statement which he has kindly permitted me to quote: "I have never seen any nervous trouble, either passing or permanent, or any arrest of development following applications of the x rays made on the scalp with the dosage employed for the cure of ringworm. This is my opinion after five years' continuous experience, employing the applications daily, and having treated in this manner about 3000 children." This important statement of M. Sabouraud, whose experience probably exceeds that of anyone else, speaks for itself.

It has been stated that nervous derangements, though they do not show themselves about the time of the exposure, may do so at some remote period and may be delayed until the brain is matured. This suggestion is obviously impossible to refute as the single exposure method was only introduced in 1905. But if it were true it seems strange that some of the cases done in 1905 by Sabouraud and others should not have shown signs of trouble by this time. There is a consideration, however, which seems to me to argue strongly against the possibility of such a delayed accident, and that is the fact that in connexion with the skin where late developing and slowly progressive dermatitis has occurred, going on to epitheliomatous changes, it has been due to repeated exposure to the rays over a long period. In the case of a single exposure such as is employed for ringworm, on the other hand, the effect manifests itself, if at all, in a fortnight and passes off in a few days, unless the exposure has been excessive, when the effect may appear earlier. That the effect of the exposure to a single full dose is transient is shown not only by the disappearance of the erythema but by the fact that the inhibition of the function of the hair papillæ passes off and regrowth of the hair takes place, and late after-effects do not occur. If these are the effects of a single dose on the skin, which is directly exposed to the rays, the effects on the brain ought to be analogous, only modified so as to be greatly reduced owing to the brain being screened from the rays by the scalp and skull. And if from an exposure to a full dose, or even from a single over-exposure, no signs of brain trouble manifest themselves at the time when an inflammatory reaction might be expected to occur in the meninges—i.e., about the third week—there does not seem to me to be any reason for suggesting that brain symptoms might develop at some remote period, and, so far as I am aware, there is no evidence to that effect.

In what has been stated above all the evidence against the suggested injury to the brain has been of a negative character. So far I have not been able to obtain any positive evidence, and only vague statements have been forthcoming, the foundation of which I have been unable to ascertain. With the object of attempting to settle the matter on a firmer basis than that of negative evidence I have done the following series of experiments which, though not absolutely conclusive, are still of interest in this connexion.

Believing the Sabouraud and Noiré pastille to be a reliable index of the maximum dosage of x rays to which the skin may be subjected without harmful consequences, and knowing that dosage to be sufficient to cause the defluvium of the hair from the exposed areas without so injuring the papillæ that regrowth is prevented, and having found the pastille as supplied and standardised by Drault to be invariably reliable, if used according to Sabouraud's directions, I have employed the pastille in these experiments as a means of estimating the quantity of x rays which can penetrate through the skull and scalp. A piece of fresh scalp and the parietal portion of the skull of a boy ten years old were obtained and employed to screen the pastille from the x rays in the following three experiments. In almost every case the pastille had a piece of thin lead sheeting placed behind it. The exposures were given by the x ray system already referred to, the apparatus being kept running so that the pastille was turned after an average of 15,000 dips of the break as indicated by the speed counter. During the

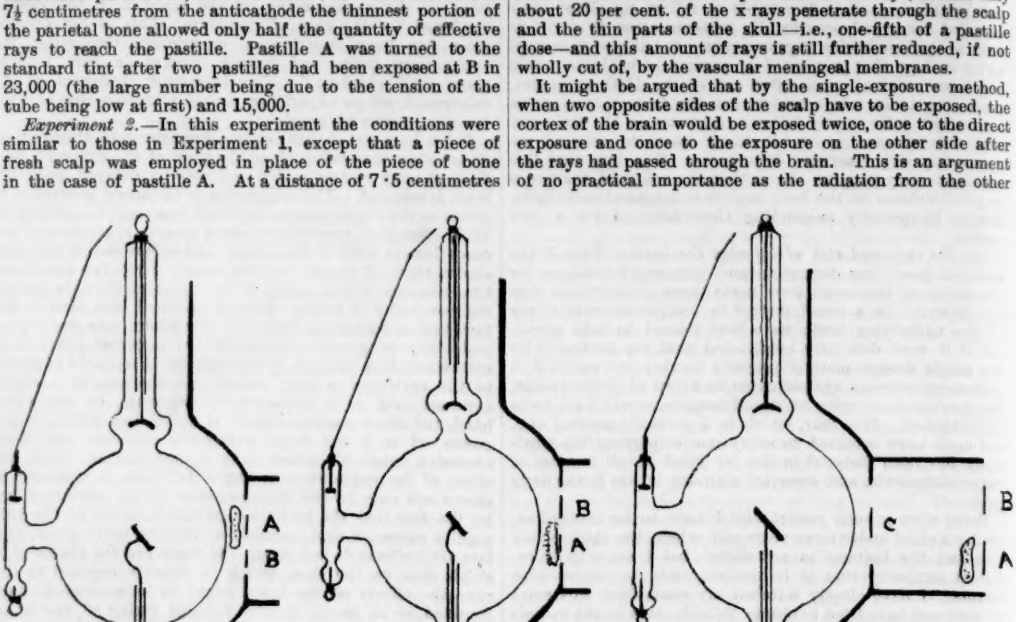
time of the exposure the pastilles were usually covered by a dark velvet cloth, and they were compared with the standard tint in diffuse daylight.

Experiment 1.—In this case a pastille (A) was placed behind the thinnest portion of the parietal bone which was found to correspond in its screening capacity to a layer of aluminium 2 millimetres in thickness, another pastille uncovered (B) being placed alongside as a control. These were both placed at the regulation distance for the pastille, namely, 7½ centimetres—i.e., half the distance of the scalp from the anticathode. It was found that to turn pastille A to the required tint it was necessary to expose two uncovered pastilles B; in other words, that at a distance of 7½ centimetres from the anticathode the thinnest portion of the parietal bone allowed only half the quantity of effective rays to reach the pastille. Pastille A was turned to the standard tint after two pastilles had been exposed at B in 23,000 (the large number being due to the tension of the tube being low at first) and 15,000.

Experiment 2.—In this experiment the conditions were similar to those in Experiment 1, except that a piece of fresh scalp was employed in place of the piece of bone in the case of pastille A. At a distance of 7·5 centimetres the number of dips of the break, 15,000, 15,000, 15,000, 15,000, 15,000, and 14,000. Pastille B turned to standard tint after exposure of 3¾ pastilles at C, with the number of dips 15,000, 15,000, 15,000, and 10,000.

In these experiments the exposures were made through the thinnest parts of the parietal bone, which was chosen as being one of the thinnest parts of the skull. The amount of protection afforded by it alone was so great that only 50 per cent. of the rays passed through it. In the case of the thicker parts of the same bone the protection is considerably greater and in the thickest parts is almost absolute. The protection given by the scalp is also considerable as it seems to cut off about 30 per cent. of the rays, so that only about 20 per cent. of the x rays penetrate through the scalp and the thin parts of the skull—i.e., one-fifth of a pastille dose—and this amount of rays is still further reduced, if not wholly cut of, by the vascular meningeal membranes.

It might be argued that by the single-exposure method, when two opposite sides of the scalp have to be exposed, the cortex of the brain would be exposed twice, once to the direct exposure and once to the exposure on the other side after the rays had passed through the brain. This is an argument of no practical importance as the radiation from the other



EXPERIMENT 1. EXPERIMENT 2. EXPERIMENT 3.

The letters A, B, and C indicate the position of the pastilles to which reference is made in the text.

pastille A was turned with an exposure of a dose and a half. Pastille B was turned in 13,000 dips of the break, while pastille A required 20,000. The protection afforded by the scalp was such that only about two-thirds of the rays passed through it.

Experiment 3.—In this experiment three pastilles were exposed. Pastille A protected by the layer of bone at a distance of 15 centimetres from the anticathode—i.e., the regulation distance of the scalp—pastille B at the same distance uncovered, and pastille C uncovered at a distance of 7·5 centimetres. Pastille A was turned to the standard tint by 6 pastille doses as indicated at C. Pastille B was turned after 3¾ pastille doses as indicated at C. This experiment verifies the fact that the effect of the rays on the tissues varies inversely with the square of the distance and emphasises the vital importance of invariably exposing the skin at the same distance. The action on the bone-protected pastille A was slightly more than half that on the uncovered pastille at the distance of 15 centimetres, and did not quite correspond to the result in Experiment 1 where both pastilles were exposed at 7·5 centimetres, but it also showed that the thinnest piece of bone in the skull was in itself sufficient to protect the underlying tissue, so that only about a half of the effective rays reach it. Pastille A turned to standard tint after the exposure of 6 pastilles at C, with side would be greatly reduced in this passage, and when it reached the further side owing to the increased distance its effect would be negligible.

Experiment 4.—In this experiment the thin portion of the parietal bone was fixed to the forearm of a young woman and the skin exposed to a full pastille dose at the regulation distance of 15 centimetres. In the part of the skin covered by the bone—that is, the part subjected to half a pastille dose—there was not the slightest apparent effect on the skin, no suggestion of a reaction occurred in the fortnight, nor did the delicate lanugo hairs fall out.

Experiment 5.—This experiment was of another type and consisted of inoculating on maltose-agar diseased hairs which had been subjected to a pastille dose, the stumps being epilated at varying times up to the third week when the defluvium takes place. In every instance, except where the culture had become contaminated, the inoculation resulted in the development of a typical culture of the ringworm fungus. This simply verifies the known fact that the exposure of an affected hair to a pastille dose of the x rays does not kill the ringworm fungus but simply brings out the hair. When one considers the comparative delicacy of the spores and mycelial threads of the ringworm fungus and the fact that it can be destroyed by an inflammatory reaction set up by irritants, the potency of a full pastille dose of the

rays, far less a small proportion of one, on living healthy tissue would seem to be comparatively slight.

Though I am aware that in connexion with such exposure experiments certain debateable points arise with regard to the probable existence of x rays of different powers of penetration, hard rays and soft rays, and their respective action on healthy and diseased tissue, still my experience has shown that what we are mainly concerned with in the therapeutic application of the x rays is the quantity of x rays which reach the tissue, and the pastille is a simple and reliable method of estimating it. From these experiments it seems to me that the scalp and meninges so protect the underlying brain that only a small proportion of the dose of x rays, if any, can reach it. This small amount of x rays instead of doing harm may even act as a stimulant to the brain as has frequently been asserted in connexion with small doses of the rays.

In this contribution I have tried to state the position fairly after considerable experience of the method, having encountered many difficulties with it at first and having had many failures before these difficulties were overcome. Where the chief disappointments have been met with has been in the cases in which under-exposures have been given purposely or inadvertently, or where a small affected area was missed out, or where the after-treatment between the exposure and the defluvium was carelessly carried out. I have avoided discussing such questions as the relative effect of the x rays on the skin and deeper structures, such as nerve tissue, but I fully concur with the opinion that doses of x rays such as are employed in the treatment of ringworm, though they affect the skin, do not cause appreciable changes in such tissues as nerve, muscle, and fibrous tissue, which are much more resistant to the rays.

In conclusion, my experience since 1905 has led me to the belief—

1. That the x ray treatment of ringworm by the single-dosage method with the dosage regulated by the pastille is practically safe and harmless.

2. That it is a method of treatment of such delicacy that even in the hands of an experienced operator an accident such as an over-exposure might happen, but that such accidents should be of such extreme rarity as not to discredit a mode of treatment possessing such obvious advantages.

3. That severe dermatitis followed by permanent baldness is the result of an over-exposure or is due to some accident such as the exposing of an area the resistance of which has been lowered by the previous application of strong irritants before the inflammation has entirely subsided, the use of wrong or inaccurately standardised pastilles, or from overlapping.

4. That permanent baldness or delayed hair-growth without marked dermatitis is the result of over-exposure, but that it might in rare instances be due to some idiosyncrasy on the part of the patient in the same way as the occurrence of alopecia areata after ringworm.

5. Finally, I have been unable to obtain any definite evidence of injury to the brain by this method of treatment from my own cases, from the literature on the subject, or from anyone with experience of this treatment whom I have asked, and the experiments which I have done in this connexion strongly negative the possibility.

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THE HISTOLOGY OF RHEUMATIC ENDOCARDITIS.

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WHILE examining a number of inflamed and otherwise diseased hearts I have made sections of a dozen or more valves showing evidences of recent or old "rheumatic" endocarditis, and also of spots of mural endocarditis found accidentally during a thorough examination of the muscular walls of an acutely inflamed "rheumatic" heart. The cellular changes noted in these sections have not differed much from those usually described in text-books, but their mode of origin and sequence seems to me to be other than that often taught. The word "rheumatic" is here used to cover all cases of "acute simple" endocarditis and the valvular fibrosis resulting therefrom.

In rheumatic endocarditis we meet with both kinds of inflammatory reaction—that characterised by the formation of new cells from those already existing in the inflamed tissue, and that in which the cells "resisting" infection are imported by the circulation from other parts. Both kinds are present, but the proliferative factor is far more important and characteristic than the exudative.

In all cases of acute rheumatic endocarditis the dominant feature of the histological picture is the presence of certain cells which are almost certainly the outcome of proliferative activity in the local tissues. These cells are identical with those fully described in recent papers on rheumatic myocarditis.[1] They are larger than ordinary fibroblasts, which in their shape they resemble. Sometimes, as a result apparently of degenerative changes, they are swollen and rounded. About one-third or one-half of these cells are multinuclear, the number of nuclei not exceeding six or seven. These nuclei stain very well at their periphery and in the centre, the resulting impression being that of a sharply defined rim inclosing a clear space in the midst of which are several deeply stained dots. The cytoplasm stains deeply and uniformly, especially with basic dyes. These large cells are gathered together into groups or tracts into which other cells enter scarcely at all. In cases of destructive or malignant endocarditis groups of such cells are not seen. Their distribution in the valve is of two kinds. First, they may lie in nodules in the deeper parts of the valve or even in the centre of one of the chordæ tendineæ. In these nodules, which are especially plentiful in valves vascularised by previous inflammation, there is often a central area of slightly granular material staining well with eosin, inclosed within a ring of the characteristic cells. Secondly, they may form layers along the surface of the valve without dipping deeply into its substance; such layers correspond in area with the patches of fibrin deposited on the surface of the valve. In one valve a group of these cells lay just beneath the surface without any lesion of the endothelium.

But it is the position occupied by these cells in the patches of mural endocarditis referred to above that is peculiarly enlightening. Just as in the intermuscular connective tissue so also in that immediately beneath the pericardium and the endocardium we find nodules such as I have described in former papers.[2] These appear to express the inflammatory reaction provoked locally by the impact of rheumatic micro-organisms borne into the cardiac wall by the coronary arteries; and their histology is the same, whether they are intermuscular or subendocardial. When a nodule arises under the endocardium certain changes follow in the neighbouring area of serous membrane. My sections fortunately provide a complete series of pictures of these changes. First there is the formation of a localised patch of œdema just beneath the endothelium. Lymphocytes appear in this patch and the building of new capillaries is soon visible. These expand into distinct processes; in one spot, a narrow creek in the ventricular wall, one of these processes formed a bridge spanning the creek and, fastening itself to the opposite endocardial surface, became an "adhesion." At the same time, the endothelium is likely to become detached; this leaves an "ulcerated" surface through which a few lymphocytes escape, while upon it fibrin is heaped up, sometimes separated from the endocardial surface by a layer of leucocytes chiefly of the polymorphonuclear type. This leucocytic covering is more likely to be found in endocarditis of the ventricular recesses than on the valves, probably because the greater stagnation of the blood stream favours it. Stems of newly formed capillaries may grow out into the fibrinous mass from their endocardial roots, but the presence of fibrin is not essential to their formation.

Inflammatory exudation in rheumatic endocarditis takes the form of lymphocytosis—that is to say, one can say confidently that in rheumatic endocarditis, as in myocarditis, the majority of the leucocytes are mononuclear. They are scattered sparsely through the valve, with greater concentration at some spots; not even at such spots, however, are they densely crowded, and there seems to be no certain connexion between these more infiltrated areas and the fibroblastic zones. There is, however, another form of leucocytosis sometimes found in rheumatic endocarditis. Over those

[1] Brit. Med. Jour., vol. ii., 1907, p. 1513; Quarterly Journal of Medicine, October, 1908.

[2] Ibid.

surfaces where the fibroblasts are plentiful and the endothelium stripped off polymorphonuclear leucocytes are sometimes deposited freely, especially on the patches of mural endocarditis. Judging from appearances, these are derived from the blood passing through the cavities of the heart, for they are plentiful on the endocardial surface but are scarcely found at all beneath it. We may therefore draw a contrast between the moderate diffuse lymphocytosis seen in all cases of rheumatic endocarditis and the intense but localised polymorphonuclear leucocytosis seen on surfaces which have lost endothelium; in the first the cells come from the coronary blood, in the other from the intracardiac blood.

The changes that remain after acute inflammation has cooled down can be summed up in two words—fibrosis and vascularisation. The valve is thickened chiefly but not solely at its free edge; the proximal part near the attachment of the flap is found thickened at any rate in the more advanced fibroses. New vessels are sown plentifully throughout, and even when the valve is suffering an early stage only of what seems to be the first inflammation there is quite a number of new capillaries to be seen in it. When there is a re-infection of a valve already vascularised by a bygone inflammation fibroblastic nodules are more thickly distributed in the central parts of the valve than in cases which appear to represent an earlier phase of endocarditis. It seems, therefore, that each fresh inflammation increases the total thickening and deformity of the valve in a geometrical rather than an arithmetical progression, for each attack not only adds its quota to the sum total of fibrosis but also by increasing the blood-vessels in the valves lays it more open to further invasion.

Two important conclusions are, I believe, warranted by a consideration of the above facts with others bearing upon the subject.

1. *The type of inflammatory reaction* seen in rheumatic endocarditis is a very characteristic one. Compare it, for instance, with that seen in a valve invaded by pneumococci. In this latter the cellular reaction is exudative mainly, and the great majority of the exuded cells are polymorphonuclear leucocytes; proliferation plays quite a subordinate part. In rheumatic endocarditis there is much proliferation, the cells found being larger and more often polynuclear than in most fibroblastic reactions; the cells exuded are few in number and chiefly mononuclear in type. The two kinds of reaction are separated by a cleavage which goes to their foundations, and it seems likely that the infective agents responsible differ as essentially.

2. The micro-organisms of rheumatism (for while there is still disagreement as to the actual form of the causal agent, no one can doubt that rheumatism is a microbic disease) are carried to the valve by the coronary blood and not by that flowing through the chambers of the heart. Judging from a perusal of modern text-books, most persons still believe that organisms are deposited upon the valves, like castaways on the banks of a flood, by the blood that hurries through the heart at a high speed; that they are given a firmer "foothold" by the phagocytic action of the endothelial cells. This hypothesis is palpably improbable, but the alternative or embolic theory of endocarditis has always been met by the retort that embolism of cardiac valves cannot occur, since in the normal state they have no blood-vessels. The argument in favour of the embolic or coronary theory can therefore be arranged under three heads.

(*a*) There is evidence to show that *the inflammatory reaction of rheumatic endocarditis begins deeply and spreads to the surface.* The characteristic fibroblastic reaction may be seen sometimes in the deepest parts of a valve even when it has not been vascularised by a previous inflammation. In some of my sections areas of this kind are seen in the very centre of chordæ tendineæ. Further, the patches of mural endocarditis described in this note show a sequence of events just like those in the valves, starting with the formation of a nodule in an obviously direct connexion with the coronary blood-supply. If this is what takes place in the mural endocardium there is likely to be a similar beginning in an inflammation of the valves, since in both the later developments of the process are so closely alike. Again, we know that in about two-thirds of all cases of rheumatic endocarditis the pericardium is also inflamed, and it has been shown[3] that in practically every case the myocardium exhibits the very same type of fibroblastic inflammation. No one will suggest that these changes are produced by any other than a coronary infection, especially when we take into account the occasional discovery of fibroblastic foci in the walls of the coronary arterioles in cases of rheumatic carditis, and the very constant affection in similar cases of that part of the aorta which is supplied from the coronary arteries. Now, if in these cases every other part of the heart is infected with organisms borne into it by the coronary vessels, is it likely that the valves alone are infected at the same time and apparently by the same kind of bacteria in a different way?

Once more, if we look upon endocarditis as due to microbic invasion of the valve from the coronary circulation, we see at once one reason why the destructive types of inflammation choose valves previously damaged by rheumatism for their site. It is because rheumatic inflammation has left the valve thoroughly permeated by permanent blood-vessels, which will admit organisms to the depths of the valve in larger numbers than into a normal non-vascular valve.

(*b*) *The other, "castaway," hypothesis is wildly improbable.*—Suppose for a moment that the blood flowing through the heart were saturated with virulent micro-organisms, ready to settle on the endocardium and multiply there; would they be likely to settle on the valves, which lie right in the midst of the strongest and most direct of the intracardiac currents? Surely they would rather choose the auricular and ventricular recesses, the inlets and bays of the endocardial coast line; and we should find mural commoner than valvular endocarditis. But even allowing for the difficulty of excluding the presence of mural endocarditis by a naked-eye examination, we can be sure from experience that it is not so common as valvular inflammation, for this latter occurs in practically every case of rheumatic carditis (88 per cent., according to my own necropsy figures; 99·3 per cent., Lees and Poynton[4]).

(*c*) *The non-vascular nature of the valves does not upset the coronary theory.*—Those who believe that the valve, having no blood-vessels, cannot be invaded from its base by bacteria must explain how its tissues are nourished and also where the lymphocytes come from in rheumatic endocarditis. They must also account for the presence of micro-organisms in other non-vascular structures—for instance, the spirochæta pallida in the cornea in cases of congenital syphilis.

This is an old controversy, and some of the arguments may have done duty before, but some are new; and it has been my intention to set down in black and white a personal impression derived from independent observation and free, as far as possible, from the influence of prejudice.

Summary.—1. The reaction to rheumatic invasion of the endocardium is characterised by the formation of large fibroblasts in groups and zones, which, so far as my experience goes, are constant in rheumatic but absent from other forms of endocarditis. 2. The valvular inflammation of rheumatic carditis is set up by micro-organisms carried to the endocardium by the coronary arteries and their branches.

I wish to thank my colleagues at the General Hospital, Bristol, and Dr. Reginald H. Miller, medical registrar to St. Mary's Hospital, London, for material, and also Professor I. Walker Hall for the use of the pathological laboratory, University College, Bristol.

Clifton, Bristol.

[3] Quarterly Journal of Medicine, October, 1908.

A SIMPLIFIED METHOD OF X RAY APPLICATION FOR THE CURE OF RINGWORM OF THE SCALP: KIENBÖCK'S METHOD.

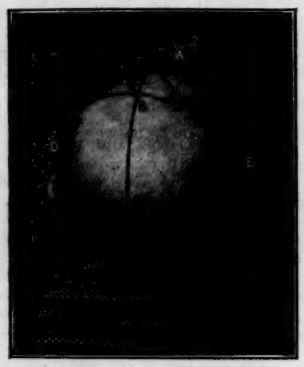
BY H. G. ADAMSON, M.D. LOND., M.R.C.P. LOND.,
PHYSICIAN FOR DISEASES OF THE SKIN, ST. BARTHOLOMEW'S HOSPITAL.

DEPILATION by means of the x rays is now fully established as the most satisfactory method of treatment for ringworm of the scalp. Briefly, the treatment consists in temporarily depilating the affected area or areas, each by a single measured dose of x rays, and thus, mechanically, and without actually killing the fungus, eradicating it from the areas exposed. By the introduction of the pastille of Sabouraud and Noiré

[4] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxi., p. 419.

as a means of measurement of dosage, in trained hands, the dangers of the treatment have disappeared. One disadvantage it still has, namely, the length of time occupied by the actual exposures to the rays, and any means of shortening this period must be welcomed by all who have many such cases to treat, more especially in hospital or institution work. In a large majority of cases it is found necessary to irradiate the whole scalp.

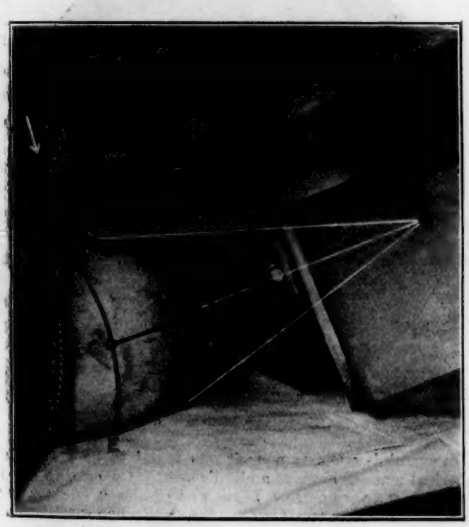
FIG. 1.



Reproduction of photograph showing child prepared for x ray applications to whole scalp. The applications are made at right angles to the points A (towards the forehead), B, C, D, and E.

By Sabouraud and Noiré's well-known method with circular localisers from 10 to 12 exposures are necessary in order to x ray the whole scalp, and reckoning only 15 minutes for each exposure and a certain time for adjusting the localisers for each area, the time occupied in x raying the whole scalp is from three and a half to four hours. By a method which has been largely used in this country, and

FIG. 2.

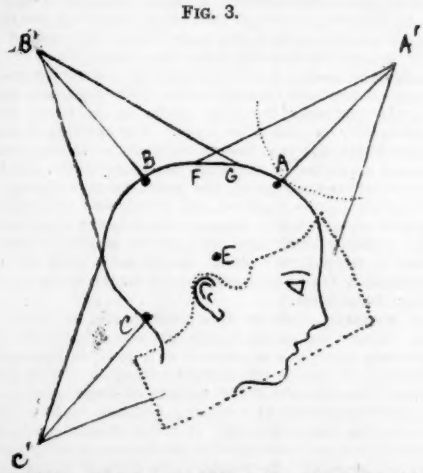


Reproduction of photograph showing box-shield in position for x ray application to upper occiput (B). The white lines indicate the direction of the rays through the aperture in the box. The white arrow indicates the direction in which the dose is to be aimed when the left side of the scalp is being rayed. The ear and side of the face is then covered by lead-foil as in the diagram (Fig. 3). Similarly when C is rayed the neck and back are protected. (The pegs here shown were found to be somewhat too thick and have since been made more slender.)

which I have myself employed for the past five years—namely, that of dividing the scalp into rectangular areas and irradiating each area (surrounded by a lead-foil shield) in succession—the time may be reduced to from two and a half to three hours.[1]

By the method which I am now about to describe the number of exposures necessary to depilate the whole scalp is reduced to five, so that it is possible to irradiate the whole scalp in one and a half hours. This method was employed for the first time, I believe, by Kienböck, in Vienna, for the treatment of cases of favus and also in a few ringworm cases. Its essential features are that no cylindrical nor lead-foil localisers are used, but that adjacent x ray applications are made in such a manner that at those parts where overlapping does occur the incidence of the rays is so oblique and so much further from their source that no excessive dose is given. I have now used this five-exposure method in 75 cases with perfect results[2]; every part of the scalp has received an even radiation, and the hair has fallen completely without any sign of overlapping margins or areas with non-fallen hairs as evidence of insufficient exposure. In the earlier cases of this series the regrowth of the hair has been normal over the whole scalp, and the absence of any sign of erythema in the later cases makes it certain that they will follow the normal course, and that in due time, that is to say, in about eight weeks from its fall, the hair will begin to grow again.

FIG. 3.



(1) Points A, B, C, and E, which receive each a full pastille dose. (2) A' F, B G, indicating the angle at which rays from A' and B' fall on scalp, and the distance from the source of the rays as compared with the normal distance A' A and B' B. (3) The dotted line represents the sheet of lead used to protect the ear and face when point E is x-rayed.

The details of the method as I have employed it are as follows:—1. The hair is clipped short over the whole head to facilitate operations. 2. Five points are marked on the scalp with a blue skin-pencil as follows:—

In the middle line.	Point A, 1½ to 2 inches behind the frontal margin of the hairy scalp.
	„ B, 1 inch to 1½ inches above the centre of the flat area which forms the upper part of the occiput.
	„ C, just above the lower border of the scalp at the lower part of the occiput.
At the sides of the scalp.	Point D, on the right side just above and in front of the ear.
	„ E, on the left side just above and in front of the ear.

Measured with a tape-measure the distance between any two of these five points should be exactly 5 inches. 3. The five

[1] Treatment of Ringworm of the Scalp by the X Rays, THE LANCET, June 24th, 1905, p. 1715. In the method described in this paper the scalp was divided into four areas. It was soon found, however, that it was better to divide the scalp into eight areas.

[2] In four or five cases only has there been incomplete fall of hair on certain parts of the scalp—in two cases from precautionary under-dosing because a new installation was being tried, and in the rest because the wooden pegs used to keep the scalp at the proper distance were rather too thick.

points are joined up by lines made with a skin-pencil. These lines should meet one another at right angles. The mapping out of these points and lines need not occupy more than one or two minutes. 4. A Sabouraud pastille dose with the anticathode at 6½ inches from the nearest point of the scalp is given to the vertex, occiput, lower occiput, right side and left side in succession, taking the points A, B, C, D, and E as the centre of each area to be rayed and placing the tube so that the line joining the anticathode and the nearest point on the scalp is at right angles to a similar line joining the anticathode with each of the central points of the adjacent areas. The lines which have been drawn on the scalp connecting the five points give an indication of the direction in which the dose is to be aimed—i.e., of the position of the tube in relation to the head. The applications to the vertex, upper occiput, and the two sides are best made with the patient lying on a couch. The forehead and eyes must be shielded by a piece of lead or protective rubber during the exposure to the front of the vertex, and the ears and sides of the face when the sides of the head are exposed. The fifth application, that to the lower occiput, is best given with the patient sitting down and resting the forehead upon a low table. A shield must be used to protect the neck.

In order to ensure fixing the anticathode at the correct distance from the scalp during the exposures I have had fitted to the box shield which incloses the tube three slender wooden pegs which converge at their extremities to within one and a quarter inches of each other, and which are of such a length that the part of the scalp which rests against them is just six and a half inches from the anticathode of the tube. The pegs are made of soft wood so as not to obstruct the passage of the rays through them. The pegs rest against the scalp just over the blue marks A, B, C, D, and E, according to the area to be rayed. The aperture in the box through which the rays pass is three inches in diameter and three and a quarter inches from the anticathode, so that at the level of the points of the pegs the rays diverge to a circle of six inches diameter, and in this way one avoids the escape of rays into the room or towards the operator or on to the patient's shoulders, for a circle of this diameter is blocked by the patient's head. At the same time, this circle of irradiation allows a good margin for the necessary overlapping of the doses.

The essential points in this method are to direct each irradiation *at right angles* to the direction of the irradiation of adjacent areas, and to aim not at a point in the centre of the vertex, of the lower occiput, or of the sides of the scalp, but towards the outer margin of these areas, so that half the dose goes on to the scalp and half on to the shield protecting the face and neck. If these precautions be taken there is no risk of over-exposure at the overlapping margins of the rayed areas. In practice the dosage works out so nicely that every part receives an equal amount and depilation is total and complete, without anywhere a sign of over or under exposure. In theory, according to the well-known laws that the quantity of rays received at any point exposed varies (1) inversely with the square of the distance from the source; and (2) directly with the size of the angle of incidence, the dose received by any part of the scalp is found to be, with mathematical accuracy, one pastille dose.

Weymouth-street, W.

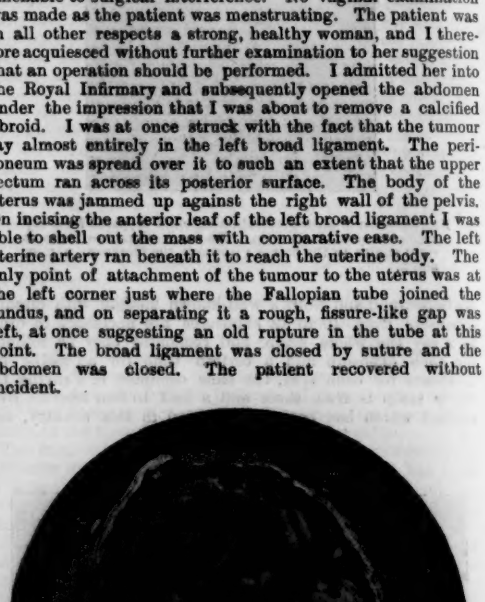
A CASE OF LITHOKELYPHOS.

BY J. BASIL HALL, M.C. CANTAB.,
HONORARY SURGEON, BRADFORD ROYAL INFIRMARY, ETC.

IN THE LANCET of March 27th, p. 910, Mr. J. Lionel Stretton described a case in which he reviewed an interesting example of lithokelyphos. The fœtus was a well-preserved specimen of about four and a half months' development. In a subsequent issue of THE LANCET in which the case was referred to it was pointed out that the specimen might perhaps more accurately be described as a lithokelyphopædion. The following case, upon which I recently operated, is, I believe, a true example of lithokelyphos, no calcareous deposits in the skin of the fœtus being discoverable. It is particularly interesting because the patient was able to give such a typical history of its origin in a ruptured tubal gestation occurring 21 years prior to the operation for its removal. Moreover, there is unmistakable evidence that the fœtus continued to live after the rupture of the tube and to develop up to the age of seven months.

In May, 1905, Dr. F. K. March of Bradford asked me to see a married woman, aged 45 years, who was suffering from a considerable abdominal tumour. She had never had any children and had been cognisant of the presence of the tumour for many years. It appeared soon after her marriage 21 years ago. There had never been any menorrhagia or symptoms of any kind until quite recently, and it was supposed to be a fibroid which had undergone calcification. During the last two years it had become troublesome and caused a good deal of discomfort on account of pressure upon the bladder. The urinary symptoms had become so tiresome that the patient had expressed a great wish to have the tumour removed.

On examination of the abdomen I found a stony, hard, globular mass rising from the pelvis half-way to the umbilicus. It was not fixed and was obviously readily amenable to surgical interference. No vaginal examination was made as the patient was menstruating. The patient was in all other respects a strong, healthy woman, and I therefore acquiesced without further examination to her suggestion that an operation should be performed. I admitted her into the Royal Infirmary and subsequently opened the abdomen under the impression that I was about to remove a calcified fibroid. I was at once struck with the fact that the tumour lay almost entirely in the left broad ligament. The peritoneum was spread over it to such an extent that the upper rectum ran across its posterior surface. The body of the uterus was jammed up against the right wall of the pelvis. On incising the anterior leaf of the left broad ligament I was able to shell out the mass with comparative ease. The left uterine artery ran beneath it to reach the uterine body. The only point of attachment of the tumour to the uterus was at the left corner just where the Fallopian tube joined the fundus, and on separating it a rough, fissure-like gap was left, at once suggesting an old rupture in the tube at this point. The broad ligament was closed by suture and the abdomen was closed. The patient recovered without incident.



The tumour sawn across.

On examining the tumour it was found to be a calcified spherical mass as large as a child's head. On cutting into it with a saw a very perfect fœtus was disclosed encased in a calcareous shell. A small patch of the scalp had disappeared, exposing the frontal bone, and there was a little adipocere upon the buttocks. With these exceptions the skin was perfect, being slightly yellowish in colour, but soft and supple. The finger nails were intact and not loose. The saw had unfortunately severed the little finger from the right hand. It had also wounded the abdomen and exposed the intestines. The latter were slightly shrunken but still contained meconium. The features of the face were easily recognisable and not disfigured in any way. The umbilical

cord was flattened and the placenta had shrunk into a small, flat, spongy cake. The shell in which the fœtus was inclosed was lined with a smooth shining membrane very much like the peritoneum in a dissecting-room subject.

As I was wishful to preserve the specimen intact no dissection of the fœtus was made. From the appearances, however, which were visible where the saw had severed the left little finger, there seems no doubt that the muscles of the limbs could be easily differentiated by anatomical dissection. The limbs themselves were somewhat moulded by pressure, but, generally speaking, the normal outlines were preserved.

On subsequent cross-examination the patient gave a remarkably characteristic history of having suffered from an intraligamentous ectopic gestation following upon a rupture of a gravid Fallopian tube. She said: "I was married rather more than 21 years ago. About nine weeks after marriage I was sweeping the kitchen floor one morning when I suddenly fell down in a fit and became unconscious. I was thought to be dying, but I slowly recovered and was afterwards in bed some weeks and suffered from an internal inflammation. My body then began to grow larger and I was said to be pregnant. It continued enlarging for five months and then stopped. I was then told that there was no pregnancy but that I had a tumour. I got quite well and never had any trouble up to the two last years, when I have had much discomfort from being unable to hold my water."

While the occurrence of occasional cases of lithokelyphos and lithopædion is so well known as to call for no comment, this example seemed to me to be worthy of record from the fact that every detail in the origin and history of the case was obtainable. It is to be regretted that, owing to the presence of menstruation and the absence of any doubt as to the amenability to operation, a more systematic clinical examination was not made. It is extremely doubtful, however, whether anything approaching a correct diagnosis would have been arrived at. Even at the operation the uterus was only defined after the tumour had been raised out of the pelvis. Why urinary symptoms should have commenced after a tolerance extending over nearly 20 years it is impossible to say. Probably this was owing to some accidental circumstance causing the tumour to wedge itself within the pelvis.

Bradford.

NOTES ON A SPORADIC OUTBREAK OF TRICHINOSIS IN DEVONSHIRE; WITH REMARKS.

BY J. DELPRATT HARRIS, M.D. DURH., M.R.C.S. ENG.,
SENIOR SURGEON, ROYAL DEVON AND EXETER HOSPITAL.

With Pathological Report and Remarks by R. V. SOLLY, *M.D. Lond., F.R.C.S. Eng., Pathologist to the Hospital.*

ON Jan. 21st last a man, aged 48 years, applied to the Royal Devon and Exeter Hospital complaining of pain in his eyes with discharge of muco-purulent character and pains in the head. Four days previously he noticed frontal headache and darting gnawing pains. His appetite failed. On taking his temperature it was found to be 102° F. He was accordingly made an in-patient.

On admission his eyelids and conjunctivæ were found to be œdematous, so that they bulged out; the conjunctiva of each eye tended to fold over the cornea. Each eye was in the same condition and although there was so much œdema it was not of the reddish colour associated with gonorrhœal infection. The pupils were equal and not dilated. The patient seemed apathetic but answered questions correctly. On the evening of admission the temperature rose to 103·4°. The tongue was clean. The pulse was 72. Knee-jerks and Babinski's sign were absent. At this time there seemed but little upon which to found a diagnosis. The condition of the eyelids suggested thrombosis or embolism possibly of the cavernous sinus. The condition of apathy seemed to confirm this, but the irregular action of the bowels and also the temperature seemed to suggest a possibility of the disease being enteric fever. His abdomen was daily examined for spots but none were found.

It was somewhat fortunate that whilst this uncertain condition continued I read of some cases in which swelling of the lids and orbital contents accompanied trichinosis. The cerebral apathy seemed after a few days to get better and gradually all idea of intracranial thrombosis passed. The temperature falling daily seemed unlike enteric fever. Pains of the limbs were anticipated and inquired for each day, but none came to any extent. In the patient's hearing I stated how helpful it would be if it could be found that the patient had eaten pork lately, and if the pork should turn out to be unwholesome our diagnosis could be completed. The patient looked up and at once said, "Well, I think so, too, for I have never felt well since eating some pork about Christmas time." Inquiry elicited that a month prior to admission he and several on the farm partook of a pork dinner. The pig was killed on the farm to forestall its death. It had lately farrowed but seemed likely to die, and the young were weakly. The wife of the farmer was ill, also a son; the patient and his wife, too, were both taken ill, but the wife having cooked the pork said it smelt bad and had a very little of it. The man partook of it more freely.

As the patient lived in Exeter, although working in the country, I communicated with the inspector of nuisances of Exeter and with our pathologist to the hospital, Dr. Solly. The latter examined the patient's blood and to his surprise found a large increase of eosinophile white corpuscles, no less than 32 per cent. He reported that such a condition would be confirmatory of a condition of trichinosis.

I saw the medical attendant of the farmer's wife and mentioned my suspicions. He said that the wife seemed to have pains in all her joints with fever and he thought it probably was rheumatism. On hearing my report he took great interest in the matter and helped to get the history of the pig. The inspector of nuisances for Exeter communicated with that of the county and he with the medical officer of health of that district of Devonshire, who was fortunate in getting some portions of the pig, in which large numbers of trichinæ were found.

Our patient gradually recovered but not without some remissions of temperature, and although able to get about now appears pulled down, thin, and poorly, but is slowly recovering.

Remarks.—When meat containing trichinæ is eaten the capsules are dissolved and the worm is set free. Passing into the small intestine, in three days they become sexually perfect and in six or seven days the embryos are developed. There is therefore but short time for purgatives, emetics, or vermicides to be of use: seven to nine days only. Passing through the intestinal mucous membrane it is almost certain that the embryos are transported viâ the venous system. After a preliminary migration in the intermuscular connective tissue they penetrate the primitive muscle fibres, and in two weeks or thereabouts develop into the full-grown muscle form. Myositis is excited, and it is now that the patient suffers pain in his limbs and muscles of the body, so frequently mistaken for muscular rheumatism. After invasion the clinical thermometer usually registers 102° to 104° F., and the fever is usually remittent or intermittent. Profuse sweats are not uncommon, occasionally tingling, itching, and urticaria of the skin. With such symptoms in a patient it is evidently our duty to have the blood examined, when, if the peculiarity alluded to concerning the eosinophile white blood corpuscles exists, our suspicions will be so greatly strengthened as to amount almost to a certainty.

Pathological Report and Remarks by Dr. R. V. SOLLY.

In January last Dr. J. D. Harris asked me to examine a man under his care with a view to a possible diagnosis of trichinosis. The man did not seem very ill, was suffering from œdema of the eyelids, a continuous elevation of temperature, and a decidedly dull mental state. Though on the face of things trichinosis did not seem to me a very likely diagnosis, I examined the stools microscopically for adult trichinæ with a negative result, and on Jan. 31st made a leucocyte count which was as follows: total leucocytes, 13,333 per cubic millimetre. A differential count gave the following result: polymorphs, 54 per cent., total 7200; lymphocytes, 12 per cent., total 1600; large mononuclears, 3 per cent., total 400; and eosinophiles, 31 per cent., total 4133.

According to Zappert, the outside limits of eosinophiles in normal blood are 0·67 to 11 per cent. They are increased in some skin diseases, such as pemphigus, prurigo, psoriasis, and urticaria, and also in asthma and emphysema, but

particularly in diseases due to internal parasites, such as bilharzia, ankylostoma, and trichinæ. In trichinosis the eosinophile leucocytes may reach a percentage (of all leucocytes) of 40 to 80. Here we had one of 31 per cent., which pointed strongly towards trichinosis, as the other conditions where eosinophilia is present could be excluded. Consequently, Dr. Harris felt justified in setting in motion the sanitary machinery, with the result that Dr. L. P. Black, acting medical officer of health of St. Thomas's rural district, discovered the actual salted pork of which this man had partaken, and on Feb. 21st we examined this together and found many trichinæ among the muscle fibres. A fresh specimen made by teasing or crushing the muscle and examined under a very low power, 70–100 diameters, shows the parasites very distinctly. In the pig as a rule the capsules are not calcified and hence are not visible to the naked eye. Later I made permanent specimens by embedding in paraffin and staining with hæmatin solution and eosin, the worm taking the hæmatin and the muscle the eosin. Frozen sections are no use as the worm drops out. To get a good specimen it is important that the sections are fairly thick.

On Feb. 26th I made a differential leucocyte count from a blood film taken from another patient, from the same farm, who had also eaten this pork. This was a woman under the care of Mr. C. Fenwick of Dunsford, who kindly supplied me with the film. A differential count gave the following result: polymorphs, 39 per cent.; lymphocytes, 24 per cent.; large mononuclears, 3·5 per cent.; and eosinophiles, 33·5 per cent.; a very similar result to the first case. This patient had been taken ill about the same time and had suffered from rheumatic pains and an elevated temperature, and at first had been supposed to be suffering from acute rheumatism.

In order to prevent the spread of the disease the Board of Agriculture was communicated with by Dr. Black, and an inspector was sent down to investigate the farm and its surroundings. He was fortunate in finding a dead rat on the farm. On examining its muscles it was found to be teeming with trichinæ. It may not be generally known that pigs will often kill rats, which are the normal host of the trichinæ, and probably have no objection to eating them, and hence become infected. Rats travel long distances looking for food in the country, and farms remotely situated may thus become infected. The Local Government Board has also made itself interested in this small epidemic, and in company with Mr. G. C. Hancock, one of its inspectors, I examined pork from neighbouring farms and the muscles of a rat caught for the purpose, but without results.

This outbreak of trichinosis shows the importance of bearing this disease in mind when cases occur with symptoms of pyrexia and muscular pains where the diagnosis is doubtful. If it had not suggested itself to Dr. Harris as a possibility in the case in the hospital, the epidemic, if one may so call it, would certainly have remained undiscovered. The differential blood count is also most important, and the large eosinophilia was so suggestive of trichinosis that it justified further steps being taken to find out whether the pork was infected or not.

Exeter.

CALCIUM LACTATE IN THE TREATMENT OF EPILEPSY.

BY ARTHUR R. LITTELJOHN, M.R.C.S. ENG., L.R.C.P. LOND.,

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FOR some months I have been treating several epileptics with calcium lactate. The improvement in these cases since they were put on the drug is sufficiently marked to justify my recording the facts, as I have not heard of its being used before in the treatment of epilepsy. All the patients under this treatment have improved—some more so than others. They are all in an epileptic ward, where both day and night they are under constant supervision by nurses accustomed to recording epileptic seizures, so that complete reliance may be placed on the number of fits recorded. Reference to two of the more successful results obtained may perhaps persuade others to give the drug a trial.

CASE 1.—The patient was a female, married, aged 46 years; menstruation had ceased. She had had no family. There was no history of syphilis. She is said to have had a fright 17 years ago, followed by a slowly progressive right-sided hemiplegia, and two or three months later by fits. In December, 1908, her condition was as follows. She was quite lost to her surroundings, dirty in her habits, childish, incoherent, noisy, and spiteful. She showed little or no signs of right-sided paralysis, except slight swinging of the right leg whilst walking. The knee-jerks on the two sides were equal. She was having three to five fits in every 24 hours, most of them in the day-time.

The type of fit is a *petit mal* or "sensation." The attack starts by the patient screwing up her face; she then throws herself backwards and wriggles or rolls, making at the same time a bellowing noise. There is a momentary loss of consciousness but no actual convulsions and no cyanosis. The duration of the fit is less than 30 seconds.

On Dec. 19th, 1908, the patient was put on calcium lactate, 15 grains three times a day, and the following is a copy of the record kept:—

	Number of fits.		
	Day.	Night.	Total.
During the week ending Dec. 26th	34	11	45
" " " " Jan. 3rd	22	9	31
" " " " Jan. 10th	16	10	26
" " " " Jan. 17th	19	5	24
" " " " Jan. 24th	18	4	22
" " " " Feb. 1st	16	5	21
" " " " Feb. 8th	16	4	20
" " " " Feb. 15th	25	8	33
" " " " Feb. 22nd	24	10	34
" " " " March 1st	24	3	27
" " " " March 8th	21	4	25
" " " " March 15th	15	3	18
" " " " March 22nd	14	0	14
" " " " March 29th	0	0	0
" " " " April 5th	0	0	0
" " " " April 12th	0	0	0
" " " " April 19th	0	0	0
" " " " April 26th	0	0	0
" " " " April 27th to 30th	0	0	0

She has also improved mentally, and now does a little polishing in the ward.

CASE 2.—The patient was a female, aged 33 years, single; she menstruated regularly. No history was obtainable except that she had been in lunatic asylums for epileptic insanity since 1894. In January, 1909, her condition was as follows. She was lost to her surroundings, had no memory, and was very dull and confused. She was in fair bodily health. She was having from three to five fits in every 24 hours, most of them in the day-time. The number of fits had not changed appreciably during her menstrual period.

As regards the type of fit: 1. Many of her fits are "sensations." If standing up she suddenly collapses and falls to the ground; if sitting down she "jumps" and falls off her chair. Recovery is immediate. 2. Some of her fits are typical, strongly marked major epilepsy with general convulsions, loss of consciousness, cyanosis, biting of the tongue, and frequently cutting of the chin, eyebrows, or nose on the ground.

On Jan. 7th, 1909, she was put on calcium lactate, 15 grains three times a day, and the following is the record of fits since:—

	Number of fits.		
	Day.	Night.	Total.
During the week ending Jan. 14th	27	4	31
" " " " Jan. 21st	19	4	23
" " " " Jan. 28th	11	4	15
" " " " Feb. 4th	5	3	8
" " " " Feb. 11th	5	1	6
" " " " Feb. 18th	9	1	10*
" " " " Feb. 25th	7	3	10
" " " " March 4th	3	2	5
" " " " March 11th	2	1	3
" " " " March 18th	5	2	7*
" " " " March 25th	3	1	4
" " " " April 1st	1	3	4
" " " " April 8th	0	0	0
" " " " April 15th	1	1	2
" " " " April 22nd	0	2	2*
" " " " April 28th	0	3	3
" " " " April 29th and 30th	0	0	0

* Menstruating.

TWO CASES OF TRAUMATIC SEPARATION OF THE UPPER MANDIBLE.

BY WILLIAM BLIGH, M.D., B.S. LOND.

CASE 1.—On Nov. 30th, 1896, a friend and patient of mine, aged 41 years, on returning from a day's shooting was seated in a wagonette driven by a coachman. The horse bolted down a steep hill into a village and threw the coachman off the box seat. My friend, fearing for the safety of others in the village street, pluckily made an attempt by climbing over the box seat on to the horse to get command of the reins and stop the animal. He, however, fell and crashed on to the ground on his face. He was not concussed, but bled a good deal from the nose and mouth. I saw him about an hour after and found his entire upper jaw freely moveable both laterally and from before backwards, the entire mandible being apparently hinged on to the articulations of the nasal processes of the two superior maxillæ with the frontal bone. The hard palate, the nasal bones, and the nose all moved in one piece with the two superior maxillæ. There was no escape of cerebro-spinal fluid, no sign of brain injury, no hæmorrhage into either orbit, or interference with the lacrymal ducts, and very little pain or extravasation into the soft parts; in fact, my friend was so little hurt that he exhibited his new accomplishment of wagging the whole front of his face to and fro with no little pride and humour.

Treatment consisted in keeping the lower jaw firmly pressed against the upper with a plaster bandage, and gentle syringing of the nasal cavities and washing out of the mouth with an antiseptic wash. The range of movement in the mandible steadily became less and less, and within from three to four weeks the jaw was firmly fixed once more. Some not very severe neuralgia of the right infra-orbital nerve, probably produced by pressure of callus, came into evidence at the end of the second week, and lasted for about a fortnight.

CASE 2.—A woman, aged 33 years, was driving a spirited pony in a governess cart on Jan. 4th, 1909, when the animal bolted and dashed into another cart. The woman was flung out violently upon her face. I saw her within a few minutes of the occurrence and found her concussed but not deeply unconscious, in fact in a typical state of cerebral irritability. There was fairly free hæmorrhage from the nose and mouth, the left upper central incisor was found loose inside the cheek and the other left upper incisor had been knocked out but was missing; several teeth on the left side of the lower jaw were much loosened, the left lower central incisor was hanging quite loose and the right lower central incisor was turned almost completely round in its socket. The lower jaw, however, was not broken. As in Case 1, the upper mandible was quite loose in one piece and could be moved freely laterally and from before backwards hinging upon the articulations of the nasal processes of the superior maxillæ with the frontal bone, in which position crepitus could readily be detected. The soft parts of the face and the eyelids were much swollen from blood extravasation. The nose and the palate moved with the mandible. On the next day the whole face was enormously swollen, neither eye could be opened and the general aspect was that of a more or less shapeless pudding. There was no escape of cerebro-spinal fluid and no paralysis of nerves, but oozing of blood from the anterior and posterior nares continued for several days. As soon as the eyelids could be opened much sub-conjunctival ecchymosis could be seen but it was not wedge-shaped and evidently came from the eyelids and not from a fracture involving the anterior fossa of the skull.

The condition of moderate concussion continued for several days but no symptoms of anxiety supervened, the swelling of the face gradually lessened and the mandible steadily became more fixed, so that three weeks after the accident the jaw was nearly immoveable. On account of the state of the mouth and teeth no attempt was made to fix the fracture, the jaw was gently pressed into good position and antiseptic washes were used as in the first case.

The exact line taken by these fractures posteriorly is impossible to determine without dissection, and I do not think that a radiograph would help greatly. The malar arches in each case were intact, the separation taking place at the junctions of the malar processes of the superior maxillæ with the maxillary borders of the malar bones. In both cases the separation above took place at the articulations of the nasal processes of the superior maxillæ with the frontal bones so that the upper mandible carrying the nasal bones with it hinged upon the root of the nose just below the glabella. With these (the four main stays of the upper mandible) gone very little additional force would complete the bony loosening of the jaw, as is seen in removal of one upper jaw, where, when one superior maxilla is sawn apart from its fellow, it is only necessary to saw through the nasal process and the junction with the malar to remove the bone by rocking with lion forceps.

Judging from the second case, no treatment aimed at steadying the fracture seems necessary; nature is so kind to wounds about the face, owing to the plentiful blood supply, that the mobility of the mandible rapidly diminishes and union becomes firm without any aid from the surgeon.

Caterham Valley.

A CASE OF PULMONARY TUBERCULOSIS TERMINATING WITH ACUTE STREPTOCOCCAL MENINGITIS.

BY ERIC H. R. HARRIES, M.B., B.S. LOND.,
LATE SENIOR RESIDENT MEDICAL OFFICER, VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.

A GIRL, aged 13 years, was admitted to the Victoria Hospital for Children, Chelsea, on Dec. 12th, 1907, with the following history. Six months previously she had had pneumonia, her mother not being certain whether it was "double" or confined to the left side. Since that time she had not been out of bed for longer than periods of a week or so at a time. Whenever she did get up her temperature was found to rise to 101° or 102° F. She frequently coughed up "blood and matter." She had coughed up similar material on the morning that she was brought to the hospital, and also 11 days previously. Before coughing up the sputum she would have attacks of pain in the left side sometimes accompanied by shivering. There was profuse perspiration at night. Since the attack of pneumonia the mother had noticed the girl to have a swelling in the neck and also to be losing her hair. She had menstruated regularly since the previous June, the last "period" being three weeks before admission. The only thing of note in the patient's previous history was that she had had, when seven years of age, an "open" tenotomy of the right sterno-mastoid performed for torticollis. The parents were both healthy and there was no history of tuberculosis in the family.

Physical examination.—The patient was a tall, thin girl, somewhat anæmic. The sexual features were well developed, and her general appearance suggested that she was somewhat older than the age given (13 years). Moderate enlargement of the thyroid gland was noted. The pulse was 116, small in volume and regular. Tremors and exophthalmos were absent. The physical signs in the chest, on admission, were flattening of the percussion note over the apex of the right lung anteriorly and also over the posterior surface of almost the whole of the left lung. Over the right upper lobe the tactile vocal fremitus was distinctly increased. On auscultation, air entry into the upper lobe of the right lung was found to be diminished. Expiration was prolonged. A few crepitations could be distinguished. Beyond the flattened percussion note and a poor air entry nothing further was made out in the left lung. Examination of other systems was negative.

Subsequent course.—On Dec. 14th (two days after admission) the patient coughed up some sputum containing nummules and streaked with bright blood. At 6 P.M. the temperature was 99·4° and she complained of pain in the left side and in the region of the heart. On the 15th a smear preparation of the sputum was stained by the Ziehl-Neelsen method and counterstained with methylene blue. Tubercle bacilli were found, together with definitely capsulated diplococci morphologically resembling pneumococci. Some scattered micrococci were also seen. Unfortunately, no cultures were made to decide definitely upon the nature of the cocci. On the 18th the catamenia commenced. The general condition of the patient had improved. The enlargement of the thyroid had subsided somewhat.

The pulse was 72, the respirations were 20, and the temperature at 6 P.M. was 97° and at 10 P.M. 99°. There were still frequent cough and slight perspiration at night. The patient's condition remained much the same until the 28th, when she had a further slight hæmoptysis, the temperature at 10 P.M. going up to 101°. The final note on the case was made on Jan. 2nd, 1908, as follows: "For the past three nights the patient has had slight hæmoptysis, the sputum not being much more than tinged with blood. She has also complained of headache which was at first frontal but for the last two days occipital. The condition seemed to be slightly relieved by phenacetin. At 6 P.M. on Dec. 31st the temperature was found to be 103°. About 9 P.M. she vomited. On Jan. 1st the patient vomited seven times, the vomitus being mixed with slightly blood-stained sputum. No fresh pulmonary physical signs could be detected. At 1 P.M. to-day (Jan. 2nd) the girl began to cry out and to make a continuous loud groaning noise. The eyes became prominent and staring, the teeth were clenched, and the alæ nasi were working. At first the patient was quite conscious but later could not be roused. The eyes later became half closed and the corneal reflex was not obtainable. The right knee-jerk was glib; left knee-jerk normal. Kernig's sign was fairly well marked on both sides. No plantar reflex obtained on either side. Tache cérébrale was well given on the forehead. There was no retraction. The face was flushed and the skin acted freely. The lips were dry and there were sordes around the mouth. The patient died early on the morning of Jan. 3rd. Lumbar puncture was not performed."

A necropsy was performed by Dr. J. C. Ledingham, assistant pathologist to the hospital. The following is an abstract from the interesting post-mortem notes.

Thorax.—Left pleural cavity completely obliterated, the costal and pulmonary pleuræ being intimately connected by very strong adhesions. The right pleural cavity contained no fluid. The apex of the right lung was intimately adherent to the adjacent chest wall. The left lung was extremely congested in both upper and lower lobes. It was still slightly crepitant, however. At the apex of the right upper lobe there was a small caseous nodule with cicatrised lung tissue in the neighbourhood. Another small nodule (about 2 millimetres in diameter) was situated subpleurally near the lower border of the right upper lobe. The lower and middle lobes were quite crepitant and showed no congestion. Bronchial glands not enlarged.

Pericardium: The pericardial sac contained about two ounces of clear fluid. Heart muscle and valves appeared quite healthy. Just above the aortic valve were a few arterio-sclerotic patches. The foramen ovale was not completely closed, but the small semilunar opening still persisting was covered over on the left auricular side by a crescentic fibrous flap.

Abdomen.—Liver slightly enlarged and exhibited slight cyanotic induration. Spleen slightly enlarged and very soft and friable. Malpighian bodies not swollen.

Kidneys.—The left kidney was much smaller than the right and weighed 2¼ ounces, the weight of the right kidney being 4½ ounces. The lower pole of the left kidney exhibited several cicatricial indentations having the appearance of old infarct formation. The right kidney was much congested.

Brain and meninges.—Over the pons, crura cerebri, medulla, and under surface of the cerebellum was a large quantity of yellow pus lying immediately under the pia mater. The purulent exudate did not extend up to the optic commissure and there was no trace of it along the Sylvian fissure. Both lateral ventricles were greatly distended with yellowish and slightly blood-stained grumous material. The floor of the right lateral ventricle was covered with minute ependymal hæmorrhages. No primary abscess formation could be found. There was no evidence of cerebellar tubercle. Both petrous bones were opened up, but no evidence of suppuration was found.

Bacteriological examination.—The pus from the meninges and lateral ventricles was found to contain enormous numbers of streptococci and pure cultures of streptococcus were obtained.

It is well recognised that in most cases of pulmonary tuberculosis the infection is a mixed one. Osler[1] says: "Streptococci and pneumococci may be found in the sputa and the former have been isolated from the blood." In an unsigned article in the *Hospital*,[2] the results of "cultivations from the lung cavities in 100 cases of fatal phthisis" are given. Thirteen varieties of micro-organism were isolated. Amongst them streptococcus was present in 74 cases, pneumococcus in 16, and an unidentified diplococcus in four. It would seem in the present case that the streptococci were carried from the pulmonary focus by the blood-stream to the base of the brain. The transitory enlargement of the thyroid was probably only the congestive condition associated with puberty and the onset of menstruation.

For permission to use the notes of the case I am much indebted to Dr. Reginald C. Jewesbury, assistant physician to the hospital.

City Hospital, Fazakerley, Liverpool.

[1] Osler: Principles and Practice of Medicine, sixth edition, p. 336.

A CASE OF HEPATO-OMENTAL BANDS CONSTRICTING THE STOMACH.

BY GEORGE A. HAWKINS-AMBLER, F.R.C.S. EDIN.,
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THE patient, a female, aged 22 years, was first seen at the out-patient department of the Bootle Hospital, when she gave the following history. She had suffered from anæmia at the age of 16 years, but had recovered. A year later she was attacked with pain in her stomach, which commenced sometimes before, sometimes three or four hours after, meals. When the pain came on before food she would have an intense desire to eat ("hunger pain") and feel a "sinking sensation at the stomach." Food seldom relieved, often increased, the pain, but she was eased by pressure or by holding up the stomach. The pain was sharp or griping in character and was referred to the right epigastric and hypochondriac regions and often to the back, and it was continuous until she lay down, when, unless the attack was very severe, she was relieved, but a sore feeling would remain. The patient vomited at the onset of the pain, but rarely any blood, and only in small quantities, but the retching was severe. Vomiting was preceded by pyrosis. Nausea was frequent and was sometimes occasioned by the sight of food. Flatulence was a troublesome feature. There was no constipation and menstruation was normal. After some weeks of suffering she sought relief at various hospitals and became an in-patient on five different occasions for periods varying from two to 10 weeks, being treated as an out-patient in the intervals, and she was the interesting subject of clinical lectures on gastric ulcer and hysteria. While in hospital she could always eat well and she suffered very little pain or inconvenience, but on her discharge and resumption of work the symptoms returned with such severity as to make her life intolerable.

On examination the patient was found to be a slightly-built girl of medium height, fair complexion, anæmic, but not ill-nourished. She had good teeth and the heart, lungs, and pelvic viscera were normal. On distension of the stomach it was not observed to be enlarged and there was no splashing. Some tenderness was elicited by palpation at two fingers' breadth above and to the right of the umbilicus, but no pyloric thickening was observed. Examination of the gastric contents after a test meal revealed slight hyperchlorhydria. The kidneys and their excretion were normal. Duodenal ulcer was suspected and the patient was kept in bed for four weeks on limited diet, from which meat and vegetables were excluded. After a few days of this treatment she felt better; the pain and vomiting ceased and she enjoyed her food. Improvement continued, and after being up and sitting out of doors for ten days she was transferred to the out-patient department. About a fortnight later, however, the patient was readmitted to hospital with a return of all her symptoms. She was so ill and was suffering so acutely that I determined to explore the stomach with a view of performing gastro-enterostomy if any definite lesion were discovered in that organ or the duodenum.

An incision was made in the middle line above the umbilicus, and the omentum was found to be firmly attached to the anterior abdominal wall; stretching from this some three or four thin bands of peritoneal adhesions passed over

[2] Antistreptococcic Serum in Phthisis with Cavitation, Hospital, Jan. 18th, 1908.

the stomach to the upper surface of the left lobe of the liver. These were divided between catgut ligatures, as were other bands that passed beneath the stomach and behind it. The stomach could then be carefully examined, but no thickening or abnormality could be discovered in it or in the duodenum and the abdominal wound was closed. The wound healed by the first intention and a month later the patient was sent to a convalescent home for a fortnight. She expressed herself as feeling well and perfectly free from pain or discomfort, able to eat ordinary food, and getting stouter. Months later the patient remained perfectly well and was able to do her work; she looked well, was stouter and of better colour, and had quite lost her abdominal pain and distress.

There were several points of interest in the case which in various particulars suggested the presence of duodenal ulcer. The patient was easy in bed and could take food and remain comfortable so long as she remained in the recumbent position. When erect the presence of food in the stomach weighed it down and by stretching the bands of adhesion dragged on the liver. This accounted for the relief which she obtained by holding up the stomach.

The case illustrates the curious origin of peritoneal adhesions. If they were from old gastric or duodenal ulcer, starting a local peritonitis—a doubtful supposition—one might expect to find a more definite history as well as, perhaps, some thickening of the walls of these organs to indicate the site of the lesion and adhesions of the viscera implicated. But the bands passed over and under the organ and had apparently no attachment to it nor any connexion with it. The stomach and duodenum appeared to be perfectly healthy, there was nothing to suggest the occurrence of perforation of their walls at any time, and there were no peritoneal adhesions to them; nor was there any floating kidney to drag peritoneal bands across nor any history of peritonitis, though the patient was carefully examined on this point, and her intelligence was above the average of that of most hospital patients.

Although, as in so many obscure abdominal cases, one cannot explain the origin of extensive peritoneal adhesions, the case, I think, illustrates the importance of exploring the abdomen in cases of prolonged, ill-defined gastric disturbance, and it is here recorded as an addition to the growing volume of cases that justify this practice.

I am greatly indebted to my house surgeon, Dr. H. J. Knox, for these careful notes of the case and for his assistance in the treatment.

Liverpool.

A PLEA FOR THE USE OF ANTI-DIPHTHERITIC SERUM IN THE LARYNGITIS OF MEASLES.

BY A. A. WARDEN, M.D. GLASG. & PARIS,
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THE gravity of diphtheria as a complication of measles was brought home to me in March, 1908, by the illness of an English girl, aged 16 years, temporarily resident in Paris and under my care. Although she recovered—thanks to tracheotomy and antitoxin—the lesson of the case seems obvious, namely, *in the laryngitis of measles do not wait for a bacteriological diagnosis but at once inject antidiphtheritic serum.* No doubt this thesis may admit of arguments both *pro* and *con*, but it is encouraging to note that authorities in these diseases recommend similar measures. A brief outline of the case referred to may be of some interest.

The patient had the usual preliminary symptoms of measles on March 4th, and on the following day, when I was called to see her, the rash was in full evidence. The temperature was exceptionally high—105° F.—but there were no pharyngeal, pulmonary, or other complications, and four days later the temperature fell to 99°. It immediately rose, however, and on the ninth day of illness it reached 104·8°, and symptoms of laryngeal obstruction appeared. For the next few days this seemed to yield to ordinary measures, the temperature remaining between 102° and 103°, but on the thirteenth day of illness the obstruction became more definite. The right tonsil and the epiglottis were covered with a greyish exudate, strongly suggestive of diphtheritic membrane—a diagnosis that was afterwards confirmed by microscopic examination and by culture. A few hours after I had taken a swab of the exudate for analysis the child's condition became such that immediate action was necessary. The temperature reached 105°, the pulse was running at 130 and 140, while the face was leaden in colour. The stridor as the air passed through the narrowed laryngeal opening and the deepening coma all contributed to make a picture not readily forgotten. The same night tracheotomy was performed and 40 cubic centimetres of Roux's serum as supplied by the Pasteur Institute were injected. 80 cubic centimetres were given on the following day in two separate doses, but for 48 hours, with the exception of a fall in temperature and a diminution of the respiratory obstruction, there seemed so little improvement that death was hourly expected. Imperceptibly a change for the better set in and by the twenty-fifth day convalescence was well established.

Another fact which shows the degree of toxæmia present is that at one time no more than four ounces of albuminous urine were passed in 24 hours. I pass over many interesting clinical details to return to my thesis that precious time was lost in not injecting serum as soon as laryngeal symptoms were observed. My reason was that laryngitis is a not uncommon complication of measles, whereas diphtheritic laryngitis must be altogether exceptional. "In former days," says Professor Comby,[1] speaking of diphtheria attacking the larynx of a measles patient, "le croup des morbilleux était toujours mortel et la trachéotomie toujours infructueuse. Avec la serumthérapie les choses ont changé. On guérit beaucoup d'enfants atteints de laryngites diphtéritiques au cours de la rougeole, par la trachéotomie et surtout par le tubage." Trousseau's vast experience led him to expect no relief from operative measures once croup had attacked a child with measles.[2]

Conclusions.—1. Laryngitis is a frequent complication of measles. 2. It is occasionally membranous in character. 3. Non-diphtheritic membranous laryngitis in measles is exceptional.[3] 4. In all cases of laryngitis in measles anti-diphtheritic serum should be injected as soon as possible.

Paris.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON THE RELATION OF THE CAPILLARY BLOOD-VESSELS IN PURPURA.

BY WILLIAM OSLER, M.D. OXON. & MCGILL, F.R.C.P. LOND., F.R.S.,
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THE view is gaining ground that in purpura a primary change in the endothelium, caused by some poison, permits of the passage of the blood corpuscles into the tissues. The hæmorrhagin of snake venom acts in this way (Flexner), and more recent studies suggest strongly that the essential lesion is in the capillary wall.[4] In the following remarkable case a vascular change, the stimulus of a blister, prevented the occurrence of hæmorrhage in an area of skin universally affected.

On the 28th of February last I saw in Rome with Dr. G. Sandison Brock Mr. ——, aged 43 years, a robust Englishman, who was on his way home from Melbourne. He was rational, and told briefly the mode of onset, &c. He was pulseless, the face, hands, and feet were deeply suffused, of a purple-red tint, but the skin was not purpuric. The conjunctivæ were infiltrated with blood. The skin of the arms and legs was thickly set with purpura, the spots being larger and more densely placed towards the trunk. The back and chest looked purple, partly from deep congestion, partly from fresh exudation. The skin of the abdomen was plum-coloured, a uniform hæmorrhage, except in an area of about

[1] Comby: Maladies de l'Enfance, article Rougeole, p. 87.
[2] See Dieulafoy, Pathologie Interne, vol. iv., article Measles, p. 77.
[3] Martin: Annales de l'Institut Pasteur, 1892, p. 367.
[4] See Pratt's article in Osler and McCrae's System of Medicine, vol. iv.

five by seven inches, in which it was of a dead white colour without a single spot of purpura. It was a most remarkable appearance: the outlines were sharply defined and the skin was smooth, not raised. Here where he had put a large mustard-leaf was the only place in which the skin of the body looked natural; everywhere else it was either deeply congested or hæmorrhagic.

The patient died 15 minutes after our visit. On Feb. 24th he had taken a long bicycle ride, and on the 25th he had felt tired. On the 26th he consulted Dr. Brock who found the temperature to be 99·4° F. and the pulse 84. On the 27th the temperature was 100·8° and the patient had great pain and stiffness in the muscles and he had incessant vomiting, for which he had applied the mustard-leaf. In the evening he seemed worse and later very suffused, but there was no purpura. There was a little blood in the vomitus and in the urine. On the morning of the 28th Dr. Brock was shocked to find him with purpura, and he had had bleeding from the stomach and kidneys. The vomiting and the muscular pains suggested the possibility of malignant small-pox, but there were no papules about the forehead or wrists, and so far as he knew he had not been exposed.

The case comes in the category of the severe purpura hæmorrhagica of unknown origin. The feature of special interest is the absence of purpura in the limited area of skin upon which a blister had been applied. The stimulation of the mustard had altered in some way the capillary walls, rendering the cells insusceptible to the endotheliolysis, which (as in the snake-venom experiments) we may suppose to be the primary change, under the influence of some unknown poison.

Oxford.

CASE OF CEREBRAL HÆMORRHAGE FOLLOWED BY HYPERPYREXIA AND DEATH.

BY VINCENT P. NORMAN, L.M.S.S.A. LOND.

THE following case may prove of some interest, being, as it was, followed by hyperpyrexia—a clinical fact not often recorded if we judge from a perusal of literature bearing on the subject. Dr. William Osler in his text-book on medicine mentions that in basal hæmorrhage "the temperature may be high," and other authorities, while making the same statement, do not say as to how high the temperature has been known to rise. Hence my reason and apology for recording the following case.

In the present instance the patient, aged 52 years, was of powerful build and plethoric appearance. The history obtained was that up till the age of 36 years he had been a rigid teetotaler, when he gave way to alcohol and had been drinking steadily ever since until about six months before his death. During the last 15 months he had had in all three "strokes," very mild in character and all of which appear to have cleared up completely; his fourth and last attack occurred on July 28th, 1908, leaving behind it left-sided hemiplegia and incontinence of both urine and fæces. When the patient came under my observation on July 31st I found his left arm and leg completely paralysed. He was conscious but appeared to be dazed and answered indistinctly and in monosyllables when spoken to and only after the question had been repeated several times. His temperature on July 31st at 2 P.M. was 100·4° F., the pulse being 78, and the respirations 24 per minute. On the evening of the same day I was asked to go and see him again as he had taken a turn for the worse. On feeling his skin I was at once struck by the sensation of extreme heat imparted to the hand. The pulse was of low tension and 130 beats to the minute; the respiration had risen to 36, and the temperature taken in the axilla was 108·4°. As the patient was in evident grave danger I decided on trying the effect of cold as a means of reducing the temperature. It was found impossible to move the patient out of bed into an iced bath as he was fully 18 stones in weight, so I got a mackintosh under him and wrapping him in a sheet sprayed it all over with iced water, lumps of ice being left between the sheet and the patient's body. At the same time he was fanned vigorously so as to cause rapid evaporation. At the end of one hour the temperature had fallen to 104°, and the pulse was still rapid and perceptibly weaker. The cold spraying was continued and a hypodermic injection of one-thirtieth of a grain of strychnine hydrochloride was given; the pulse improved somewhat. An hour later the thermometer registered 101·2° in the axilla, the pulse was 100, and the respirations were 34 per minute. The application of the cold water was now discontinued, the patient dried rapidly and was covered with a light dry sheet, another hypodermic injection of strychnine being given. I now proceeded to examine the lungs for possible pneumonia but could detect no signs of such a condition; the cardiac sounds were weak, a blowing systolic murmur being audible in the mitral area. The temperature was now taken at intervals of an hour and showed a steady rise, till by midday on August 1st it had risen to 107·6°. The application of cold was resorted to again with the result that by 2.30 P.M. the temperature had fallen to 102·4°; it, however, soon after began to rise again, and when I saw the patient at midnight he was very weak and obviously sinking fast. The axillary temperature was 108·6°, the rectal 109°, the pulse was scarcely perceptible at the wrist and so rapid that it could not be counted, and the respirations were Cheyne-Stokes in character. It was clear that nothing more could be done. However, I continued the sponging with iced water and packed the patient around with ice and gave him one-twentieth of a grain of strychnine hypodermically, but he in no way responded to the treatment and died at 1.35 A.M. on August 2nd, the axillary temperature just before death registering 109°.

In the above case a point of some interest was the rapid rise of the temperature and its equally rapid fall under the influence of cold, the latter causing a drop in the first instance of something like 7° in two hours and again of 5°, although just before death supervened the temperature remained unaffected by the treatment. Unfortunately the exact seat of hæmorrhage could not be accurately localised, post-mortem examination being unobtainable.

Stoke Newington.

NOTES ON TWO CASES IN WHICH THE APPENDIX WAS PRESENT IN A HERNIAL SAC ON THE LEFT SIDE.

BY OWEN RICHARDS, M.CH. OXON., F.R.C.S. ENG.,
SURGEON TO KASR-EL-AINY HOSPITAL, CAIRO.

IN THE LANCET of Jan. 9th, 1909, p. 100, Dr. A. D. Griffith describes a case in which he found the appendix in a left inguinal hernia in a woman, and gives references to the literature showing that this condition is extremely rare. For this reason it may be worth while to record two similar cases, not otherwise remarkable, which I have recently seen.

The first case was one of left-sided inguinal hernia in a man, aged 45 years, who was operated upon in April, 1908. Symptoms of strangulation had existed for three days before admission to hospital. A big tense sac occupied the scrotum and on clearing and opening it I found the cæcum, the appendix, and parts of the ileum and ascending colon. The colon had a distinct mesentery. The whole was returned, the opening was closed in the usual way, and the patient made a good recovery.

In the second case the patient, a man, aged 40 years, was operated upon in September last by my assistant surgeon, Dr. Aly Bey Ibrahim. There was a large irreducible inguinal hernia which filled the left side of the scrotum and contained the cæcum, the appendix, parts of the ileum, the ascending and transverse colons, and a quantity of omentum. A good deal of omentum was removed and the operation was completed in the usual way. The patient went home healed a fortnight later.

Neither case showed any obvious abnormality, and in both there was noted to be a distinct mesentery. Both patients were Egyptians.

In three cases in which I have recently found the cæcum and appendix in a hernia on the right side two were instances of hernia by *glissade*. In the third case, in which the hernia was strangulated, the colon possessed a mesentery which was attached higher up the abdomen. In one of these cases the distended cæcum lying in the scrotum had been previously diagnosed elsewhere as a hydrocele and tapped, with disappointing results. Fortunately, it was adherent and no harm resulted.

Kasr-el-Ainy Hospital, Cairo.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Jejunal and Gastro-jejunal Ulcer following Gastro-jejunostomy. —Auto-inoculation and Reinfection of Syphilis.

A MEETING of this section was held on May 11th, Mr. J. WARRINGTON HAWARD being in the chair.

Mr. HERBERT J. PATERSON read a paper[1] on Jejunal and Gastro-jejunal Ulcer following Gastro-jejunostomy, with notes of two cases in one of which gastric analyses were made before and after operation for jejunal ulcer, with an abstract of 61 further cases and observations thereon. He said that notwithstanding all that had been written in recent years on the subject of gastro-jejunostomy there remained at least one problem in connexion therewith in need of further investigation and elucidation. The fear of the possible occurrence of a jejunal ulcer still casts a shadow, faint it was true, over the otherwise admirable results which follow this operation when performed in appropriate cases. It was of the utmost importance that all instances of this condition should be published, in order that they might have all the available material from which to draw conclusions as to the etiology of this condition, as to the best methods of preventing it, and of treatment should it occur. The notes of the following case which had been under his care were of interest, as it was, so far as he could gather, the first case in which an attempt had been made to obtain an accurate analysis of the gastric contents, and of the fluid escaping from a jejunal fistula before and after operation for ulcer of the jejunum. The case was one of anterior gastro-jejunostomy for pyloric stenosis; perforation of a jejunal ulcer five years later; resection of affected portion of jejunum, and anterior gastro-jejunostomy "en Y." The patient was a married woman, aged 47 years, who was admitted into the London Temperance Hospital on August 21st, 1902, under the care of Dr. W. Soltau Fenwick, suffering from pain after food, vomiting, and loss of flesh. The patient stated that she had always been healthy until two years previously, when she began to suffer from pain after food, which gradually increased in severity, and she had lost three stones in weight. For one year she had suffered from vomiting, usually two or three times weekly, large quantities of partially digested food being brought up. On admission the patient was much wasted and weak, and weighed 6 stones 5 pounds, instead of 9½ stones. The stomach was markedly dilated, the lower border reaching a hand's breadth below the umbilicus. There were constant visible peristalsis and a marked succussion splash. At the level of the umbilicus close to the outer border of the right rectus muscle there was a hard moveable lump rather larger than a walnut. There was a marked free hydrochloric acid reaction in the stomach contents after a test breakfast, and also in the contents of the fasting stomach. Lactic acid was not present. Dr. Fenwick thought that the dilatation of the stomach was due to cicatricial stenosis of the pylorus and asked Mr. Paterson to see the patient with a view to operation. The patient declined to have anything done and left the hospital on August 27th. On Sept. 6th the patient returned, looking a good deal worse and stating that she had been vomiting constantly. She had lost over four pounds in weight and now readily consented to operation. On the 8th he opened the abdomen. The stomach was large and much hypertrophied. In the region of the pylorus was a densely hard mass of about the size of a walnut and situated mainly in the posterior wall. There were no adhesions and the lump was freely moveable. Anterior gastro-jejunostomy was performed by means of a single layer of Halsted sutures, the opening made measuring two inches. The pylorus was explored from within, and a dense, almost complete, stricture was found. The patient made an uninterrupted recovery and left the hospital three weeks later. This was one of his earlier gastro-jejunostomies, and he must admit that at the operation he thought the pyloric lump to be malignant, and he proposed to reopen the abdomen, remove a portion of the lump for microscopical examination, and if, as he anticipated would be the case, the lump were malignant perform partial gastrectomy. Clearly he was wrong in his opinion, but fortunately the patient felt so well that she declined to have any further operation. Two years later, in August, 1904, he saw the patient again. She then told him that she had never had a day's illness or pain of any kind and that she was able to eat ordinary food. She looked a different being and weighed 9 stones 4 pounds, a gain in weight of over 3 stones. The abdominal wound was soundly healed and no trace of the pyloric lump could be felt. On August 13th, 1907, the patient was readmitted into the hospital. She stated that ever since the operation she had enjoyed excellent health. Two years before readmission she began to have some pain after food, but the pain was not severe and did not cause her much inconvenience. During the previous nine months the pain had increased, nevertheless she continued to eat all kinds of food, cheese, tinned foods, &c. For three months the patient had noticed a lump forming in the abdominal wall above the umbilicus. On August 13th the skin over the lump gave way and much yellowish fluid escaped. She was seen by Dr. Percy Edmunds, who at once sent her into the hospital. The patient looked exceedingly well and had become very stout and weighed over 12 stones. Midway between the umbilicus and the ensiform cartilage, immediately to the left of the middle line, was an aperture in the abdominal wall with shelving indurated edges from which escaped a turbid yellowish fluid apparently containing bile. Around the aperture there was considerable induration and the skin for some distance around was much thickened. A diagnosis of perforated jejunal ulcer was made. As the patient was so well nourished it was thought advisable to postpone operation with a view of getting the skin into a more healthy condition and also of reducing the gastric acidity and rendering the intestinal contents sterile by keeping her on an exclusively milk diet. This period of waiting was utilised to make a series of examinations of the gastric contents and of the fluid escaping from the fistula. The examinations were as follows:—August 20th, test breakfast. One hour later the stomach contents drawn off, 110 cubic centimetres. Total acidity, 85; total chlorides, 0·433; free HCl, 0·072; protein HCl, 0·208; mineral HCl, 0·153. During the digestion of the test breakfast and for half an hour later the fluid escaping from the fistula was collected and analysed, with the following result: Total chlorides, 0·405; free HCl, 0·044; protein HCl, 0·175; mineral HCl, 0·186. On August 27th, after the patient had been on a milk diet for a week, the analysis of the gastric contents was as follows: Total acidity, 80; Gmelin's reaction, absent; total chlorides, 0·361; free HCl, 0·018; protein HCl, 0·187; mineral HCl, 0·146. At the same time 60 cubic centimetres of fluid were collected from the fistula: Gmelin's reaction, present; total chlorides, 0·372; free HCl, 0·004; protein HCl, 0·092; mineral HCl, 0·276. Sept. 3rd, 70 cubic centimetres of fluid were collected from fistula: Total acidity, 60; total chlorides, 0·401; free HCl, 0·004; protein HCl, 0·109; mineral HCl, 0·292. At the operation on Sept. 5th, 1907, an oval incision was made through the skin around the fistula and carried downwards through the fasciæ and muscles. The peritoneum was cut through in the middle line well below the fistula and a finger was introduced into the peritoneal cavity. The jejunum was found adherent to the abdominal wall for some distance on either side of the fistula. The fistula was plugged with gauze and the peritoneum carefully cut through clear of the area adherent to the jejunum. It was then apparent that the fistula led directly into the efferent limb of the jejunum one inch below the site of the anastomosis with the stomach. Six inches of jejunum, including the perforated ulcer and the skin attached to it, were resected. After separating the jejunum from the stomach the opening in the stomach measured one inch by half an inch. This opening was enlarged and the distal end of the jejunum was implanted into it, and the proximal end of the jejunum was implanted into the side of the jejunum four inches below the anastomosis with the stomach. Both anastomoses were performed by means of two continuous

[1] The expenses of the investigations referred to in the course of the paper were defrayed by a grant from the Science Committee of the British Medical Association.

sutures. Great difficulty was experienced in suturing the abdominal wound, as after removal of the fistula and dense hard tissue around it there was a considerable interval between the edges of the wound. It was interesting to note that all trace of the pyloric lump felt at the first operation had disappeared. The patient made an uninterrupted recovery, and on Oct. 12th after a test meal 150 cubic centimetres of gastric contents were drawn off and analysed: Total acidity, 59; Gmelin's reaction, absent; total chlorides, 0·302; free HCl, 0·007; protein HCl, 0·164; mineral HCl, 0·138. The patient left the hospital in excellent health on Oct. 12th, weighing 9 stones 13 pounds. Mr. Paterson did not see the patient again until August 26th, 1908. She then told him that she had remained quite well until a month previously, when she began again to suffer from pain in the epigastrium bearing no relation to food. On passing a stomach tube in the early morning the stomach was found empty. After a test meal 40 cubic centimetres of gastric contents were drawn off, containing a good deal of mucus and some blood: total chlorides, 0·430; free HCl, 0·032; protein HCl, 0·317; mineral HCl, 0·080; no lactic acid. In view of the recurrence of hyperacidity and the presence of blood in the stomach he feared the recurrence of ulceration. When the patient left the hospital he had advised her never to take meat again, a warning which she had disregarded. He again cautioned her as to her diet and prescribed bismuth and alkalies. The patient so strongly objected to the use of the stomach tube and was so alarmed at the sight of blood in the gastric contents that she discontinued attendance for some months, so he lost sight of her again, although he heard indirectly that she was better. In February, 1909, he saw her again. She was then much better, although occasionally she suffered from attacks of pain, usually coming on during the night, accompanied by an acid taste in the mouth, and not bearing any relation to food. Her weight was 10 stones 12 pounds, there was no tenderness of the abdomen, the abdominal scar remained soundly healed, and the patient looked in excellent health. On bismuth and hydrocyanic acid she quickly lost her pain, and he believed that if only she would be more careful in her diet she would remain well. In a few of the recorded cases the total acidity of the gastric contents was estimated before operation, and in still fewer the amount of free hydrochloric acid as estimated by Topfer's method was noted. The estimation of free HCl by this method, however, was very inaccurate, and the amount of total acidity included both organic and inorganic acids. The important point was the amount of free hydrochloric acid present in the gastric contents, and this was well illustrated in the case just related. On admission into the hospital for the second time the free HCl in the gastric contents was 0·072 per cent., more than three times the normal amount. The percentage of free HCl in the fluid escaping from the jejunal fistula—i.e., in the jejunal contents—was 0·044, or more than double the amount normally present in the stomach. This observation appears of considerable significance with regard to the etiology of jejunal ulcer. Here they had evidence of the presence of a fluid rich in free HCl in a portion of intestine normally unused to the presence of acid contents. That in such circumstances ulceration should ensue was not surprising. The analysis of the gastric contents after a week on milk diet showed a very different state of affairs. The percentage of free HCl was then only 0·018, or just about normal, and the percentage of free HCl in the jejunal contents had diminished from 0·044 to 0·004. From these analyses they could draw the following inferences: 1. That the presence of an ulcer in the jejunum was connected with the large percentage of free hydrochloric acid present in the jejunal contents. 2. That as the high percentage of free hydrochloric acid in the gastric contents rapidly diminished to a normal amount on a milk diet the excess of free hydrochloric acid in this case was probably due to errors in diet. 3. That the bile and pancreatic juices in the jejunum usually neutralise the free hydrochloric acid which escapes from the stomach. When, however, free hydrochloric acid reaches the jejunum in great excess the alkaline juices are insufficient to neutralise all the free hydrochloric acid present. Although after a week on a milk diet the amount of free HCl had diminished by nearly two-thirds the total acidity had diminished only from 85 to 80. This illustrated how little information Topfer's method gave as to the amount of inorganic acids present in the gastric contents. A second example was a case of anterior gastro-jejunostomy for pyloric stenosis supposed to be malignant; recurrence of pain five years later; seven years later separation of adhesions round jejunum; good health until March, 1908; death in September, 1908. Anterior gastro-jejunostomy by means of a Murphy's button was performed by the late Mr. Walsham in May, 1899, on the patient, who was a man, aged 69 years, suffering from pyloric stenosis, which was thought to be malignant. He remained well for nearly five years, but then began to suffer constant pain after food. He was sent to see Mr. Paterson by Dr. Howard Distin, who thought that the pain was due to the irritation of the Murphy button, which so far as was known had never been passed. The patient's weight was 8 stones 6 pounds, a gain of three stones since the operation. The stomach was somewhat dilated, and just above the level of the umbilicus there was a rounded induration in the left rectus muscle. Under medical treatment the patient improved and remained well until the beginning of 1906, when he began to suffer severe pain in the left side with occasional attacks of vomiting. Mr. Paterson saw him again in July, when he looked thinner and more careworn than when last seen and he had lost 2 stones 4 pounds in weight. In the left rectus muscle was a tender nodular swelling of about the size of a small Tangerine orange. A test meal showed the presence of free hydrochloric acid, and a trace of lactic acid. An x ray photograph did not show the presence of a button in the stomach. On July 20th Mr. Paterson reopened the abdomen. There were adhesions at the pyloric end of the stomach. The pylorus was markedly stenosed, but all trace of the former tumour had disappeared. The anastomosed loop of jejunum was firmly fixed to the anterior abdominal wall for a distance of two inches. There was considerable induration of the jejunal wall as if there existed, or had existed, an ulcer of the jejunum which had resulted in the adhesion of the jejunum to the abdominal wall. The separation of these adhesions would have involved an extensive operation which he did not think justifiable in view of the patient's age. The other adhesions were divided and the abdominal wound was sewn up. The patient remained well until March, 1908, when his appetite began to fail. He suffered no pain, but he vomited occasionally. In July the stomach was considerably dilated and there was marked stomach splash. It was evident that the stomach was not emptying itself properly. With occasional lavage he improved for a time, but later his strength gradually failed and he died in September, 1908. Through the courtesy of Dr. Distin, Mr. Paterson was able to examine the abdominal viscera. On opening the abdomen an interesting state of things was found. The stomach was enormously dilated and flabby. High up towards the cardiac end the button could be plainly felt loose in the cavity of the stomach. The anterior wall of the stomach had been drawn downwards and backwards, so that the site of the anastomosis was posterior rather than anterior. Although an interior operation with a long loop had been performed, the length of the afferent limb from the ligament of Treitz to the junction with the stomach now measured four inches only and it emerged from under the colon near the splenic flexure. Until a careful examination had been made, it was difficult to believe that an anterior and not a posterior operation had been performed. This case bears out a view he expressed some years ago that after the anterior operation the afferent limb, although at the time of operation it is drawn up round the colon, becomes later displaced outwards, so that it emerges from under the colon at or near the splenic flexure. Nature thus appears to protect the afferent loop from the influence of the excursions of the moveable part of the transverse colon. The stomach was distended with formalin and examined at a later date. When the stomach was opened Mr. Paterson found that the anastomotic opening was much contracted and admitted only the tip of the little finger and was surrounded with a considerable amount of indurated tissue. In the jejunum just below the anastomosis the mucous membrane was puckered as if the site of an old ulcer, and microscopical examination showed old chronic inflammation. The pylorus was indurated and almost completely stenosed, so that its lumen was diminished to the size of a cedar pencil. Mr. Paterson referred to

papers on this subject by Braun, Brodnitz, Tiegel, Gosset, Schostak, and Einar Key, and gave an abstract of all the cases now recorded, 52 in number, to which were added 11 cases of supposed jejunal ulcer, which, however, were not verified by operation or by a post-mortem examination. The frequency of jejunal ulcer was estimated at under 2 per cent. 39 of the patients were men and 11 were women. Clinically the recorded cases were divisible into two main groups: (1) cases in which perforation into the general peritoneal cavity ensued: (2) cases in which perforation was localised by protective adhesions, either (*a*) to the abdominal wall, or (*b*) to the colon. The symptomatology and diagnosis of these cases were discussed. A simple anterior gastro-jejunostomy was performed in 27 cases, anterior gastro-jejunostomy with entero-anastomosis in ten cases, gastro-jejunostomy "en Y" in two cases, posterior gastro-jejunostomy in 12 cases, and supracolic gastro-jejunostomy in one case. The average interval between gastro-jejunostomy and the appearance of symptoms was 20 months. Of the 52 patients, 29 recovered and 22 died. In 13 cases the condition was unrecognised, or untreated by operation; all those 13 patients died. The mortality rate of the cases treated by operation was 21 per cent. Jejunal ulcer was a more serious complication after posterior than after anterior gastro-jejunostomy. (After anterior, mortality 16 per cent.; after posterior, 50 per cent.) Mention was made of the condition of the gastric contents in 18 of the cases, and in 13 hyperacidity was present. Pathologically, two varieties of ulcer followed gastro-jejunostomy: (1) jejunal ulcer proper; (2) ulceration at the site of the anastomosis (gastro-jejunal ulcer). The characters of those differed and the causes leading to their occurrence were somewhat dissimilar. The various hypotheses as to the etiology of jejunal ulcer were discussed. The speaker suggested that they were toxic in origin, the toxic agent most commonly at work being hydrochloric acid. The cases of jejunal ulcer which proved fatal within a few days of the performance of gastro-jejunostomy were probably infective in origin, and it was significant that in four or five such cases the ulcers were multiple. Gastro-jejunal ulcers were probably a direct consequence of the wound made in effecting the anastomosis, and their persistence was due to hyperacidity or sepsis. The closure of gastro-jejunostomy openings was discussed, and arguments were given in support of the suggestion made by Schostak that closure was due to cicatrisation following ulceration. Special reference was made to closure in cases of patent pylorus, and the view was put forward that hyperacidity, and not the patency of the pylorus, was the causal factor. The occurrence of jejunal ulcer with normal acidity was discussed. Jejunal and gastro-jejunal ulcer had followed the anterior operation more frequently than the posterior; the reason suggested was that in the early days the anterior was the operation far more frequently performed. No case of jejunal ulcer following the posterior no-loop operation has yet been recorded. The causes of hyperacidity after gastro-jejunostomy were discussed. Hyperacidity might be present before and persist after gastro-jejunostomy, or after a period of normal or subnormal acidity following operation the gastric contents might become hyperacid. In the latter class of case a defective or too small anastomotic opening was the probable explanation. Of 25 patients whose after-history had been obtained, 10 only were "cured" and 15 relapsed. The treatment of jejunal and gastro-jejunal ulcer was discussed under three headings: medical, surgical, and preventive treatment. Except in acute cases with general peritonitis, a thorough trial should be given to medical treatment as there was evidence that occasionally the ulcers might heal. The indications for surgical intervention were: (1) Persistence of pain and hyperacidity; and (2) evidence of gastric stasis or hypersecretion. In the cases with general peritonitis immediate laparotomy afforded the only chance of saving the patient's life. In the "chronic" cases experience taught that the simpler the surgical procedure adopted the better the result. In the cases in which, after surgical treatment, relapse occured Mr. Paterson suggested implantation of the proximal limb of the jejunum into the stomach, in order to divert the bile and pancreatic juice into the stomach. Their great aim should be to prevent jejunal and gastro-jejunal ulcers. Preventive treatment consisted in (*a*) careful and appropriate technique; and (*b*) prolonged after-treatment.

Dr. C. BOLTON said that he had proved by experiment that hyperacidity caused by hydrochloric acid produced acute gastric ulceration; by constricting the pylorus, thereby causing retention of the stomach contents, he had in seven weeks produced a chronic ulcer. He was not inclined to approve of diverting the bile into the stomach as a means of neutralising the gastric contents.

Mr. W. G. SPENCER said that improved methods in the technique of gastro-jejunostomy had diminished the liability to jejunal ulcer.

Mr. J. HUTCHINSON considered that diverting the bile and pancreatic juice into the stomach would have a bad effect and lead to constant vomiting.

Mr. PATERSON, in replying, stated that if the bile and pancreatic juice were diverted as suggested, vomiting would not be caused provided there was a free outlet for the bile to escape. He did not suggest this procedure as a routine treatment but only to be used after failure of simpler operative measures.

Mr. HUTCHINSON read a paper on Auto-inoculation and Reinfection of Syphilis, which will shortly be published in our columns.

MEDICAL SOCIETY OF LONDON.

Treatment of Shock.—Associated Disease of the Vermiform Appendix and Fallopian Tubes.

A MEETING of this society was held on May 10th, Mr. C. B. LOCKWOOD being in the chair.

Mr. JOHN D. MALCOLM read a paper on the Treatment of Shock. He quoted Crile to the effect that in shock the arteries were empty, the tissues pale, and the veins dilated. With that he agreed, but he suggested that the arteries were tensely contracted, whereas Crile taught that the vaso-motor centres were paralysed and the vessels relaxed. After quoting W. J. Porter of the Harvard Medical School and M. G. Seelig and E. P. Lyon of St. Louis, Mo., who showed by experimental methods that the vaso-motor centres were not paralysed or inhibited in shock, it was pointed out that Crile's initial proposition that the blood pressure was lowered in shock was not proved. Crile stated that the blood pressure was raised in the splenic vein. When the arterial pressure was lowered and the venous raised it was the sum of the changes that indicated the net result. A rise of specific gravity in the blood had usually been described in shock indicating a contraction of the vessels and expression of fluids into the tissues. Mummery and Symes had recently stated that the specific gravity of the blood was lowered in shock, but they regarded a pithed animal as being in a state of shock, thus assuming the solution of the question at issue, in disregard of the fact that Crile described the venous pressure as raised in shock; Starling said that when the vaso-motor centres were out of action the pressure was lowered in all the veins. The deductions drawn by Mummery and Symes that the quantity of blood was increased when the pressure fell, as they said that it fell, in shock, was contrary to the evidence referred to later. The importance of the flowing of the blood was insisted upon and attention was drawn to the fact that moving fluids were not subject to the law that pressure upon a fluid was transmitted with equal force in all directions to the surface of the fluid. By means of a tube it was shown that when water flowed through it narrowing of its calibre reduced the pressure of water in the narrowest part. From this it was argued that if the circumstances were otherwise unchanged narrowing of an artery tended to lower the blood pressure within the narrowed artery. It was further shown that if a fall of pressure was produced in any part of the tube exhibited by enlarging its calibre there necessarily was brought about a more free flow of fluid from its open end. It was argued, therefore, that if at any time a fall of arterial pressure was brought about by arterial relaxation without any other change the flow of blood into the capillaries would necessarily be increased, and this did not occur in shock. A great increase of vascular capacity or diminution of the amount of blood might cause a low pressure in arteries and capillaries, but the venous pressure would also fall, and Crile said that it rose in shock. The fact that a low

pressure of a fluid flowing through a tube could arise from contraction of the tube was altogether ignored by Crile, and some of his supporters had even said that it was not so, that the pressure was as high as, some said much higher than, that in the narrow part of the tube, forgetting that it was a difference of pressure that made a fluid flow. The fact that the blood was in an enclosed space must not be forgotten. The effect of this was that although contraction of a vessel tended to lower the blood pressure within it because the fluid flowed, yet the blood must collect somewhere, and naturally it was found in the weakest part of the vascular system, i.e., in the large veins. This accounted for the raised pressure in them which did not exist in the pithed animals and which was not accounted for by Crile's theory. Roy and Adami showed that peripheral irritation not only contracted the arteries but also increased the force of the ventricular contractions, and Eugene Boise, of Grand Rapids, Michigan, had pointed out that as shock increased the heart action became more limited until its dilatations were so small that it could not take up and propel sufficient blood into the aorta, the pressure then fell and the blood accumulated in the veins. Crile's explanation that the heart could not get sufficient blood because of the low pressure in the veins was considered unsatisfactory and irreconcilable with his previous statement that the veins were engorged. Whether the vessels were dilated or contracted in shock changes of calibre certainly occurred and the conditions necessarily returned to the normal during recovery. Hence it was necessary to divide the treatment of shock into two stages, first to prevent change and later to promote a return to the normal. Crile taught that the vessels dilated as shock progressed and should be filled with fluid and contracted if possible. Mr. Malcolm held that the vessels contract in shock, that the fluids were squeezed out of them and removed from the body as sweat. Hence vaso-dilators and sedatives should be given as shock developed, and the administration of fluids was necessary in the stage of recovery. In support of this last view Crile was quoted to the effect that as shock deepened the quantity of fluid that could be taken into the veins became progressively smaller, and that in deepest shock fluid so injected escaped into the tissues almost immediately. Mummery had confirmed these views, which did not seem to support his contention above mentioned that the volume of the blood naturally increased in shock. On the other hand, in the days when fluids were rigidly withheld after operations patients often remained in a state of profound shock for many hours. Now it was known that a free administration of fluid was all that was necessary to insure prompt recovery in an uncomplicated case. The evidence seemed complete that in shock fluids were removed from the vessels and from the body and had to be replaced before recovery was possible. Hence endeavours to force blood into the veins in the stage of developing shock were considered useless and dangerous. When the vessels relaxed the danger of collapse was great. Vaso-dilators were then unnecessary and increased the danger unless fluid was also supplied. Hence it was desirable to introduce fluid in anticipation of the necessity for it, and the dangers of venous injection could be avoided by introducing the fluid into subcutaneous tissue, the rectum, or the peritoneal cavity. The employment of vaso-constrictors when the arteries were empty and would not dilate or would not remain dilated was considered irrational, whilst alcohol was considered useful and undoubtedly improved the pulse in that stage. The action of strychnine had been condemned by Crile because when convulsions were prevented by curare in repeated doses it produced a rise of blood pressure followed by a fall until the condition of low pressure in shock was brought about. Here again the possibility that strychnine might stimulate an intense arterial contraction which reduced blood pressure by narrowing the vessels was altogether ignored and the conclusion was arrived at that strychnine paralysed the vaso-motor centres. The improvements of the methods of administering anæsthetics, the disuse of irritating antiseptics, the use of the Trendelenburg position, and the anticipation of septic and inflammatory troubles by improved diagnosis and prompt treatment were important measures for preventing shock. The greatest danger arose in septic cases in which the vascular changes of shock were already partially produced. In such cases fluid was required as a food and never less than during an operation. It should therefore be given subcutaneously during or even before a surgical procedure was commenced to replace fluid lost and to fill up vessels whenever they tended to relax. The treatment of septic peritonitis by continuous rectal injections was explained in a similar way. In such cases there was always a free discharge from the peritoneum for from 12 to 30 hours after the operation if recovery ensued. This drained the body of fluid, and if the loss was not made good the patient could not recover but died partly from shock and partly from sepsis.

Mr. C. R. B. KEETLEY said that shock was less seen now because of the care taken to prevent hæmorrhage, to keep the patient warm, and because of the substitution of ether for chloroform. He deprecated the extent to which strychnine was used in the operating theatres.

Mr. A. PEARCE GOULD said there were three elements of primary importance in the treatment of shock: external warmth, rest, and a small dose of morphine. He agreed that the hypodermic injection of strychnine was useless.

Dr. ALEXANDER MORISON pointed out that shock passed off when the power of the heart's action returned; the application of warmth or the inhalation of amyl nitrite quickened the action of the heart.

Mr. V. WARREN LOW spoke of intravenous saline injection in very severe degrees of shock.

Mr. LOCKWOOD raised the question of the definition of shock and described an instance in which the administration of oxygen produced an amelioration of the condition after other remedies had failed. He had seen gangrene follow injections of brandy and ether into the tissues.

Mr. MALCOLM said his remarks referred to conditions of shock produced gradually in a prolonged operation. He thought shock was due to the contraction of the vessels and that it killed slowly; syncope occurred when the vessels were relaxed when there was not enough blood to fill them. In regard to the injection of fluid into a vein he said that Crile's view was that if saline solutions were injected into a vein in conditions of shock the fluid merely passed into the tissues.

Mr. T. H. KELLOCK read a paper on Associated Disease of the Vermiform Appendix and Fallopian Tubes, which was discussed by Mr. CHARLES RYALL, Mr. MALCOLM, Mr. WILLIAM ROSE, and Mr. LOCKWOOD.

OPHTHALMOLOGICAL SOCIETY.

Tubercle of the Choroid.—Spring Catarrh.—Atropine and Refraction Work.—Exhibition of Instrument and Cases.

A MEETING of this society was held on May 6th, Mr. R. MARCUS GUNN, the President, being in the chair.

Dr. G. CARPENTER read a paper entitled, "A Clinical Contribution to the Study of Tubercle of the Choroid." The first patient, under Dr. J. Porter Parkinson, aged seven years, had been getting thinner. He was admitted to hospital with physical signs at the right apex, front and back. There was a history of abdominal pain, but no cause for it could be discovered by palpation. The child then became drowsy and comatose, with great wasting. There were six choroidal tubercles and flecks of retinal pigment were scattered about them. Three of the tubercles were crossed by retinal vessels. The second patient, a girl, aged two years, had been ailing six weeks and had had sickness and headache five days. When admitted she was suffering from meningitis, and died on the sixth day. The right fundus was normal and no tubercles or optic neuritis could be seen, but on the left side there was slight papillitis. Close to the optic papilla was a tubercle of considerable size, and several blood-vessels crossed its face. The retinal arteries were small; nothing was noticed about the veins. The surface vessels of the brain were congested. The diagnosis was verified at the necropsy. The next case was that of a boy, aged 17 months, who had much the same physical signs. He had meningitis, which was later corroborated by lumbar puncture. Another case was that of a boy, aged two years, who had had a bad cough five weeks and when admitted had consolidation at both apices. There was a small amount of papillitis in both eyes. He died 12 days after admission, no changes having occurred in the fundus in the meantime. Several other cases of the kind were recorded, and Dr. Carpenter then proceeded to discuss the readiness which had been shown to attribute such appearances to syphilis, whatever evidence to the contrary might have existed. He urged

early and systematic ophthalmological examinations, which would often render unnecessary spinal punctures, or injections of substances to induce reactions.—The paper was discussed by the PRESIDENT and by Dr. FREDERICK E. BATTEN, the latter gentleman commenting on the comparative infrequency of tubercle of the choroid in tuberculous children, and stating that he was under the impression that spinal puncture afforded a more certain indication than ophthalmoscopic observation.—Dr. CARPENTER replied.

Mr. J. MACKENZIE DAVIDSON and Mr. ARNOLD LAWSON communicated a paper entitled, "A Case of Spring Catarrh Treated and Cured by Radium." The patient was a boy, aged 12 years, who suffered from chronic photophobia, lacrymation, and slight conjunctival discharge which had persisted for nearly a year, but no exciting cause could be discovered. Both tarsi were covered with dense hard excrescences, closely aggregated, and separated by deep narrow fissures. The retrotarsal tissue was swollen and hypertrophied and the viscid discharge was spread over the conjunctival surface. The disease was confirmed by examination of the discharge. The irritability was chiefly marked in the morning. He was ordered complete cessation from close work and dark glasses for out of doors. Yellow mercuric oxide was used, but no benefit resulted, and it caused too much pain. A week later he had cupric sulphate drops of a strength of one grain to the ounce. In August the boy went to the seaside against Mr. Lawson's advice and got worse there. Bicarbonate of soda and hydrocyanic acid gave relief and weak copper sulphate drops were used from time to time still. He then consulted with Mr. Mackenzie Davidson as to the possibility of treating the case with radium. It was carried out for a year, during which period each eye was treated eight times. No pain or other immediate effect was produced but the granulations gradually subsided. After the eighth application he was quite cured, but the interval before reading the communication was to make quite sure there had been no recurrence for a good time. 39 milligrammes of radium were used for 15 minutes at first and then 44 milligrammes. Mr. Lawson thought that few applications with a potent dose of radium was better than many applications with a weaker quantity.—Mr. MACKENZIE DAVIDSON discussed the case, pointing out the importance of being sure that the strength of radium used was what it was said to be, as he had found serious discrepancies. It was also very important to cut off those radium emanations which were not needed in the cure.

Mr. R. R. CRUISE read a paper on the Abuse of Atropine in Refraction Work. The paper was based on the examination of 140 eyes under 16 years of age. He concluded that, on the whole, homatropine and cocaine were quite equal if not superior to atropine, though in most cases the result after the two mydriatics was identical.—The paper was discussed by Mr. S. STEPHENSON, Mr. N. BISHOP HARMAN, and Mr. C. DEVEREUX MARSHALL, the latter of whom alluded to Mr. W. Lang's investigations on the matter; and Mr. ERNEST CLARKE said it would have been useful to learn what the astigmatism was in the cases.

Mr. M. S. MAYOU read a communication on the Disappearance of the Iris from the Pupillary Area following Injury.

Major R. H. ELLIOT, I.M.S., exhibited Instruments: (*a*) An Evisceration Spoon; (*b*) an Optic Nerve Hook for use in the operation of Optico-ciliary Neurectomy; and (*c*) an Elevator for use in Extirpation of the Lacrymal Sac.

Mr. STEPHENSON showed a case of Congenital Anterior Staphyloma in a baby, who also had absence of patellæ, genu recurvatum, cryptorchidism, and other abnormalities.

Mr. G. WINFIELD ROLL showed a case with unusual appearance of the optic disc, the result of a previous papillitis.

Mr. E. TREACHER COLLINS showed a case of Nodular Leprosy affecting the Eyes; also a case of Progressive Bilateral Ptosis.

UNITED SERVICES MEDICAL SOCIETY.

Physical Training and the Medical Profession.

A MEETING of this society was held on April 14th, Colonel D. WARDROP, A.M.S., being in the chair.

Surgeon KENELM DIGBY BELL, R.N., read a paper on Physical Training and the Medical Profession. After lamenting the national tendency to "specialise" in modern sports and to neglect the well coördinated training of the body and the mind the speaker said: "It must be our duty to ensure that some sound method of physical education is universally adopted to encourage the building up of a healthy body to keep in touch with the rapid growth of mental education. The true object of physical training should be to increase the strength, agility, and power of endurance of our boys and men. By 'strength' I do not mean large muscular development (as is so commonly understood) but an even balance of work between every organ and function of our body, striving to produce an all-round man. We must endeavour to build up the feeble to a good medium of health and strength; we should strive to diminish annually the number of social wasters which the modern conditions of life tend to increase. Discretion and experience warn us of the error of acrobatic sights which pervert public spirit. The results of physical training lose their interest if instead of benefiting the mass they serve to form certain athletes to satisfy the vain curiosity of the crowd. In the Services the need for some daily routine of exercise to keep the men fit and ready for any duty they may be called upon to do, without strain to their individual economy, has been recognised for some years now and the schools of physical training at Portsmouth and Aldershot turn out annually officers and men who have been trained to instruct boys and all ratings on the lines of the Swedish system of gymnastics. I have been fortunate in having had the opportunity to study this question for the last three years by the command of the Lords Commissioners of the Admiralty, as I was appointed to the Physical Training School at Portsmouth in August, 1906, where I am still employed, and also had the privilege of attending a year's course of instruction at the Central Gymnastic Institute at Stockholm last year. The fact that I was in attendance as honorary medical officer at the Olympic games in London last July gave me a further advantage, as I seized every opportunity of studying the types of physique of the various nations competing and the different systems of gymnastics performed by the teams at the Stadium. My constant endeavour has been to study the various exercises from the practical as well as the theoretical point of view in order to learn what is being taught and to feel the effect of the exercises on myself personally,. I am fully convinced that the best method for conducting the physical training of numbers of boys and men is on the lines of the Swedish system of gymnastics." Surgeon Bell then proceeded to describe the general principles of that part of the system employed in the navy and army schools—namely, educational gymnastics—of which the three fundamental characteristics were: (1) the nature and intention of the exercises; (2) the progression of the exercises; and (3) the definite arrangement of the exercises in the daily lesson. Every exercise had a special physical effect embodied in it, which was chiefly dependent on the changes, produced in accordance with the laws of physiology, in the organs of locomotion taking part in the movement and in those parts of the nervous system which were called into play by it and each exercise was practised solely to produce that effect. There were some 900 to 1000 distinct exercises in the system and the combination of those was almost infinite, so that there was large scope for variety and individuality. The progression of the exercises had been so carefully thought out and described that the whole training could be carried out by persons of any age or special requirements without overstrain or damage. The exercises should be graduated and the so-called position of attention should be gradually reached by careful training and not insisted on at the first lesson, where it was bound to be accompanied by effort amounting almost to strain. The arrangement of the exercises in the daily lesson provided for the all-round development of every organ and function of the body. A certain definite order was employed based on the effects of the exercises, care being taken not to let several movements having the same effect follow each other and thus prevent fatigue and strain. When one group of muscles had been concentrically contracted for any period of time they were at once extended by the exercises which immediately followed and in this way their full capacity of action was assured which kept them supple and expansile instead of allowing them to remain shortened and fixed as was often the case when their contraction was alone considered. Great attention was paid to the development of an expansible and resilient chest in the young and its maintenance throughout

life, so that the breathing might be free at all times and the fixed condition of the chest—so common from older forms of gymnastics—might be prevented. No exercise was applied for developing big and fixed muscles, so the overstrain attending such attempt was avoided. The qualities aimed at in this direction were suppleness, coördination, smart reaction, and agility. A great and obvious advantage was embodied in the fact that the exercises could be performed in the open air when the atmospheric condition of the English climate permitted it. This system of gymnastics had been employed for some years now in nearly every nation in Europe. Partly owing, no doubt, to the fact that England has offered a free dumping ground for numbers of so-called professional experts to practise their various methods of physical culture, and to advertise these methods as treatment for the cure of all sorts of diseases, the mention of physical training had come to have an echo of charlatanism attached to it. Too little interest was taken in the subject by the majority of the medical profession. Surely a cause with such grand principles as physical training on sound lines offered had need of the guidance and interest of medical men to keep it on sound lines and to ward off any taint of quackery from accompanying it. Setting aside the great benefits to be derived in the future by endeavouring to build up the physique of the race to-day, a man who kept himself fit or who was kept fit by regular exercise, had an active and clean mind, was temperate in his habits, and took a pride in himself and his surroundings. Surgeon Bell concluded his remarks with an appeal to medical men to study and spread the knowledge of this important branch of science.

The discussion which followed had reference to the position of attention, the effects of urban life on development, thebenefits of physical training in schools and of universal military training, specialising, the effect of physical training on mental capacity, the defects of the Swedish system, and the contamination of systems by quackery.—Lieutenant-Colonel M. W. H. RUSSELL, R.A.M.C., Dr. W. P. HERRINGHAM, Dr. GILMOUR, Lieutenant-Colonel C. H. MELVILLE, R.A.M.C., Major C. MOORE, Dr. M. S. PEMBREY, Lieutenant-Colonel H. E. DEANE, R.A.M.C., Lieutenant COOKE, R.N., Lieutenant-Colonel A. B. COTTELL, R.A.M.C., and Fleet-Surgeon G. T. COLLINGWOOD, R.N., were among the speakers.

In his reply, Surgeon BELL maintained that although the ideal state of affairs would be for each person to train himself physically on his own individual lines, this was impossible in the Services to-day, and a system was absolutely necessary for the physical training of numbers of boys and young men. On the subject of specialising, the speaker explained that he would be the last person to do otherwise than encourage sports as long as there was an element of all-round training embodied in them, but that he could not get away from the fact that we were as a nation carrying competition too far. He advocated general training on rational lines without undue enthusiasm in competition having for its object the development of an all-round man.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—The Histology of Accessory Sinus Suppuration.

A MEETING of this society was held on May 5th, Dr. JAMES RITCHIE, the President, being in the chair.

At the private business M. Metchnikoff was elected an honorary member, and Professor C. F. Martin of McGill University, Montreal, and Professor L. F. Barker of the Johns Hopkins University, Baltimore, were elected corresponding members.

Dr. BYROM BRAMWELL exhibited: 1. A case of Sclerodema of the Hands and Lower Parts of the Forearms in a stonemason. The characteristic hide-bound condition of the skin was evident. The integuments were so tightly stretched that movements were impeded and when the hands were cold they felt like those of a frozen corpse. He had seen the same condition in four or five other stonemasons and stated that it was due to holding the cold chisel in cold weather. The patient had been treated by injecting fibrolysin and with improvement so that the skin on the back of the hand could be pinched up and the hands felt less cold. Although the injected material was absolutely sterile he had observed a rise of temperature to 104° F. and with rigor after each injection, though in a case of disseminated sclerosis there was no rise during a period of many injections, but hyperpyrexia followed the subsequent injections. 2. A case of Functional Nervous Disease treated by isolation, faradism, and the hypodermic injection of water. The case occurred in a girl, aged 12 years. Some years previously she had been bitten on the leg by a dog, and every night at 7.30 or 8 P.M. she had a recurrence of the pain, this corresponding to the hour at which the dog had bitten her, and she then assumed the same position as when she was bitten. The pain was so severe that beads of perspiration came out on her forehead. The treatment had effected a complete cure.

Dr. NORMAN WALKER showed: 1. A case of Acanthosis Nigricans. This was a rare condition, only some 30 cases having been recorded since the first in 1889. It consisted in a peculiar change and proliferation in the layer of prickle cells of the skin, leading to warty growths and a plush-like condition with pigmentation of the skin. The patient was a washerwoman and the disease had lasted eight years. The disease was most frequently associated with malignant disease, but in one or two cases in younger persons this was not seen. It was not due to disease of the suprarenal glands and treatment did not seem to have much effect. 2. A case of Pityriasis Rubra Pilaris. This was a disease peculiarly difficult to influence, but this case had been greatly benefited by hypodermic injections of soamin and the patient increased one stone in weight. Dr. Walker had always thought that lichen planus had a relation to syphilis and hence the use of soamin. 3. A case of Lichen Scrofulosorum treated with cod liver oil externally and given internally. 4. A case of Lupus treated by the local application of tuberculin. In experimenting with Pirquet's test he had vaccinated over lupus patches and so produced very considerable reaction. A 5 per cent. Koch's old tuberculin in vaseline was employed and in one or two days the part became very painful and the reaction continued for a considerable time. It caused, however, the disappearance of a very great deal of disease and had dissipated the fibrous tissue, so allowing of a free movement of the elbow and right arm, which were affected in this patient. A 10 per cent. solution of old tuberculin in saline solution was tried on two patches, with the result that the lupus nodules were eaten out as by salicylic acid. In another case of lupus on the face and arm there was very violent local reaction and a very disagreeable smell was produced, but after cessation of reaction the absorption of nodules went on most satisfactorily. Very little difference was observed in the reaction between bovine and human tubercle in Pirquet's test.

Professor F. M. CAIRD showed: 1. A man, aged 39 years, after ligature of the right subclavian for Axillary Aneurysm. A large pulsating mass had existed for two years with pain in the elbow and shoulder and loss of power in the hand. As the condition was progressing the subclavian was ligatured it its third portion. The case had progressed very satisfactorily and there was no return of pulsation in the axillary or radial arteries. It would be necessary for him to take care of his hand for some time. 2. A case after operation for Internal Strangulation. The diagnosis was made of appendicitis with perforation, but on operation the intestines were found in normal condition, but there was a constriction of the jejunum by a loose strand of fibrous tissue which contained a well-marked artery. 3. An Elephantiasis-like Condition of the Left Leg Produced by Bier's Method of Passive Congestion. This treatment had been advised for tuberculous disease of the knee-joint, but the patient had kept on the bandage for three days and three nights applied at the middle of the thigh. The leg was enormously increased in bulk and pitted on pressure. A mass of lymphatic glands could be felt in the groin passing up into the saphenous opening.

Mr. HAROLD J. STILES showed: 1. A woman after Pylorectomy for Chronic Ulcer of the Stomach. She had suffered from chronic dyspepsia for many years, with continuous pain, but without bleeding or any special symptoms. A small, indurated, but moveable swelling was present in the pyloric region. The diagnosis was made of carcinoma of the pylorus, but neither at the operation nor after the pyloric portion had been removed and slit up was it possible to say

whether the ulcer was simple or malignant. The microscope showed later that the ulcer had become carcinomatous. A gastro-enterostomy was performed and now, five weeks later, the patient remained well. For 20 years she had complained of gastric symptoms, great acidity, and hunger pain relieved by eating a crust of bread. It might be advisable to remove very chronic ulcers. 2. A Specimen of Extensive Tuberculous Disease of the Glands on Both Sides of the Neck Removed by Operation.

Mr. J. W. STRUTHERS showed a child, aged 17 months, after operation for head injury. An hour after falling out of a go-cart violent clonic spasms of the entire right side developed and continued. As the child was obviously dying a flap of scalp and bone was turned down on the left side of the skull and large amounts of fluid escaped on opening the dura. The convulsions at once ceased and have not returned.

Dr. J. S. FRASER read a paper on the Histology of Accessory Sinus Suppuration. He said that the accessory sinuses of the nose were developed by the absorption of the cancellous bone in the superior maxillary, sphenoid, ethmoid, and frontal bones respectively, and the invasion of the spaces so formed by hollow ends of mucous membrane from the nasal cavities. It was important to note that the accessory sinuses were lined by mucous membrane continuous through the ostia with that of the nasal cavities; it seemed probable that the mucosa of the sinuses would take part in any changes which the nasal mucous membrane might undergo. The communication was meant to show that the changes in the mucous membrane of the accessory sinuses were analogous to those which occurred in the nose in catarrhal and suppurative conditions and in the middle-ear cleft in catarrhal and suppurative otitis media, and that the condition of "catarrh" passed insensibly into the condition called "suppuration." Dr. Fraser pointed out that the ostia of the accessory sinuses were very small in proportion to the size of the cavities they had to drain and that the ostia were very badly situated for drainage by gravitation (with the exception of the frontal sinus). Normally, drainage was carried out by ciliary action, but when the epithelium had been damaged by disease, gravitation, syphonage, and suction came into play. The normal histology of the mucous membrane lining the accessory sinuses was described and was compared with that present in acute and chronic inflammation. In one case of *acute sinus suppuration* the prominent microscopical feature was the extensive hæmorrhage in the submucous tissue and the engorgement of the vessels. Small cell infiltration was not so marked as in chronic cases and the œdema was slight. The superficial epithelium was almost normal. In *chronic inflammation* a thick layer of catarrhal or purulent secretion was present. It was remarkable how often the superficial layer appeared to be normal although there were marked changes in the submucous tissue. The ciliated layer was often absent in parts and leucocytes could be seen making their way between the epithelial cells to the surface, there to mix with the mucous secretion to form the muco-purulent or purulent secretion. Both mono- and polymorpho-nuclear cells might be seen and occasionally eosinophiles in the same situations. As the quantity of mucus poured out in the sinuses was scanty, and the leucocyte exudation relatively great, the discharge was more definitely purulent in contrast to the muco-purulent discharge from the nose. In three out of nine antral cases examined the superficial cells were more of the squamous than of the cylindrical type, and in none of his specimens did the loss of superficial tissue extend deeper than the basement membrane, so that ulceration was not met with in these accessory sinuses. The basement membrane was, as a rule, markedly thickened in cases of chronic suppuration. The submucous tissue was usually much increased in thickness in chronic inflammatory conditions, due mainly to œdematous infiltration, vascular engorgement, and small cell infiltration. This led to a widening of the delicate connective tissue network, so that large spaces were formed filled with serum. The process was similar to the formation of nasal polypi in the middle turbinal and in the inferior turbinal in so-called "chronic hypertrophic rhinitis." The small cell infiltration varied greatly in situation, degree, and character of the cells. The great majority of the cells were lymphocytes. The gland ducts in the submucous tissue might be dilated and filled with mucus, degenerated cells, and leucocytes. Cysts were occasionally found in the submucous tissue filled with homogeneous colloid material and lined by cubical cells. The great dilatation of vessels characteristic of acute inflammation was not present in chronic cases to the same extent. Thickening of the vessel was observed in one case and in another hyaline change. The small cell infiltration was usually very marked round the vessels and old hæmorrhages were not infrequently seen in the submucous tissue as well as deposits of pigment. In eight ethmoidal cases examined osteoclasts were found in only one instance. Bone disease might be present, but it was not an essential change in accessory sinus suppuration and was due to the spread downwards of the inflammatory process. In no single case did Dr. Fraser find micro-organisms in the tissues, although numerous sections of all the cases were examined after staining by Gram's method in addition to the ordinary stains. In the discharge lying on the surface organisms could occasionally be seen. In nasal polypus and in inferior turbinal hypertrophy the essential condition was one of chronic inflammatory œdema or serous exudation into the connective tissue spaces under the basement membrane; the leucocyte infiltration was slight, while the superficial epithelium was as a rule practically normal. In ozæna, on the other hand, the change in the superficial epithelium was very marked, large tracts being converted into squamous epithelium and keratinisation of the superficial cells was sometimes present, the glands were atrophied, and there was intense leucocytic infiltration of the submucous tissue, while œdema was absent. In the accessory sinuses similar changes might be met with as Dr. Fraser found in two of his cases. On the other hand, the majority of cases which required radical operation showed changes that corresponded more closely to such conditions as suppurative rhinitis or ozæna. Dr. Fraser believed that the latter was merely an advanced stage of the former, and he strongly suspected that cases of catarrh of the accessory sinuses were much more common than were usually supposed and that the position of the ostia, while it rendered infection of the mucosa of the sinus difficult, also tended to prevent the spontaneous cure of a severe sinus infection. Dr. Fraser thought that it was possible to show that the changes in the accessory sinuses were similar to those in the nose, and that the difference between catarrhal and suppurative processes was only one of degree and that there were borderland cases. In conclusion, Dr. Fraser suggested that in the classification of acute and chronic simple inflammatory processes in the upper respiratory tract (including the middle-ear cleft) it would be well to consider the changes not only in the submucous tissue but also in the epithelial covering. Under the heading of "catarrh" might be included cases with œdema of the submucosa, with little or no alteration of the superficial epithelium and only slight leucocytic infiltration of the submucous tissue. Under the head of "suppuration" might be included four more or less distinct conditions: (1) cases with little or no œdema and only slight epithelial changes, but with marked leucocytic infiltration; (2) cases similar to the above except that the epithelium had undergone metamorphosis or was almost entirely absent over large areas; (3) cases with marked œdema and leucocytic infiltration but with slight epithelial changes; and (4) cases with marked œdema and leucocytic infiltration but with extensive changes in the epithelial layer.—Dr. P. MCBRIDE, Dr. A. LOGAN TURNER, and Mr. HENRY WADE took part in the discussion.

Specimens were exhibited by Mr. J. M. COTTERILL, Dr. ALEXANDER BRUCE, and Mr. STILES.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A provincial meeting of this society was held at Torquay on May 8th.—At 5 P.M. the Fellows were received at the Natural History Museum by Dr. T. Horton, President of the Torquay Medical Society, and by many members of the profession of Torquay. Dr. Horton, in a short speech, gave a welcome to the society, and the President, Dr. E. Solly, returned thanks.—Dr. Thomas Dunlop, medical officer of health of Torquay, read a paper on the Climate of Torquay.—The President proposed, and Dr. Orwin seconded, a vote of thanks to Dr. Dunlop.—Dr. G. W. Hamilton Cumming then gave directions as to the points of interest in the town.—In the evening the Fellows dined together at the Grand Hotel. The company numbered about 40 Fellows and ladies and about 40 members of

the profession of Torquay, as well as the Mayor, Colonel Spragge; the lord of the manor, Colonel Carey; and the President of the Natural History Society, Major Elwes.—The toast of "The Town and Corporation and Medical Profession of Torquay" was proposed by the President and responded to by the Mayor and Dr. Powell.—The toast of "The Society" was proposed by Dr. Horton, and was responded to by Dr. Leonard Williams and Mr. C. R. B. Keetley.—An excellent concert and conversazione followed the dinner.—On Sunday, May 9th, the Fellows were taken for a long drive on Dartmoor, passing through Bovey Tracey, and took luncheon at the Watershed.—After luncheon the President proposed, and Dr. J. Braithwaite seconded, a vote of thanks to the medical profession of Torquay, especially to those who had taken a very active part in the reception, including Dr. Hamilton Cumming, Dr. Dunlop, Dr. W. W. Stabb, Dr. W. Odell, and Mr. H. K. Lacey.—Mr. Lacey replied.—The party on the return journey took tea at Chudleigh.—The meeting was a great success and proved most enjoyable and instructive.

Reviews and Notices of Books.

The Interpretation of Radium. By FREDERICK SODDY, M.A. With illustrations. London: John Murray. 1909. Pp. 256. Price 6*s.* net.

THIS book contains the substance of six lectures delivered at the University of Glasgow last year, and, as might be expected from the fact that the lectures were free, popular in character and illustrated by experiments, the collected work supplies the answers to a number of questions which many interested and intelligent persons will be found daily asking as to the kind of investigation which has led to the present position of radio-active studies, and as to the meaning of the new terms employed in radio-active parlance. The science is a new one and its votaries have really had small opportunity of rendering a coherent account of the results attained or of offering an intelligible interpretation of them to the layman. Besides, the pursuit of the study has opened up such a fascinating experimental field as to have rendered its investigators breathless, so to speak, and powerless to generalise upon the advances made. But what was at one time an almost wildly exciting pursuit has now been resolved into a steady, patient toil after the wonderful secrets which the study of this direction of Nature's endowments promises to reveal. Men have paused and have taken time to record the results and to collect such facts as are calculated when put in order to render the work valuable as a whole.

Mr. Soddy's exposition is admirably clear, and it is not difficult to see that his principal object in delivering these lectures was to present the subject in non-technical language, whilst so carefully has he brought together such facts and pieces of evidence as research has placed at his disposal that no link is left out in the chain of a remarkable story. The publication of the lectures in book form has given him the further opportunity of rearranging and largely re-writing the subject matter in order to secure continuity of treatment. To give an indication of the interesting questions discussed reference may be made to some of the interrogations with which he heads the sections of certain chapters. The following serve as examples: From Where Does the Energy of Radium Come? How is it there is any Radium Left? What is the Ultimate Product? (of disintegration). Are the Metals Changing like Radium? Why is Radium Unique among the Elements?—and so forth. He certainly gives rein to ideas which some may be tempted to call merely speculative in his treatment of these inquiries, but his arguments have the merit of logic behind them, and it is hard to take the position of the absolute sceptic in these days of intense scientific progression. To the philosopher's stone there was accredited the power not only of transmuting the metals but of acting as the elixir of life. Mr. Soddy finds belief in such a stone to be "a perfect and but a very slightly allegorical expression of the actual present views we hold to-day." In energy is the life of the physical universe, "and the key to the primary fountains of the physical life of the universe to-day is known to be transmutation. Was, then, this old association of the power of transmutation with the elixir of life merely a coincidence?"

Again, is the teaching of recent science, which is in favour of the steady upward progress of the race, irreconcilable with the view of tradition of the fall of man from a higher former state? "A race," writes Mr. Soddy, "which could transmute matter would have little need to earn its bread by the sweat of its brow. If we can judge from what our engineers accomplish with their comparatively restricted supplies of energy, such a race could transform a desert continent, thaw the frozen poles, and make the whole world one smiling Garden of Eden. Possibly they could explore the outer realms of space, emigrating to more favourable worlds, as the superfluous to-day emigrate to more favourable continents. One can see, also, that such dominance may well have been short-lived. By a single mistake the relative positions of Nature and Man as servant and master would, as now, become reversed, but with infinitely more disastrous consequences, so that even the whole world might be plunged back again under the undisputed sway of Nature, to begin once more its upward toilsome journey through the ages. The legend of the Fall of Man possibly may, indeed, be the story of such a past calamity."

All these questions are asked in a philosophical spirit, showing neither credulity nor pedantic scepticism. Mr. Soddy's "Interpretation of Radium" is a charming and entertaining volume.

Insanity in India. By G. F. W. EWENS, M.D. R.U.I., Major, Indian Medical Service. Calcutta: Thacker, Spink, and Co. 1908. Pp. 347. Price 12*s.* net.

Major Ewens has had considerable experience of the subject upon which he writes and is intimately acquainted with the practice of psychiatry in India. It is striking to note how very small is the number of the insane population in India as compared with the numbers of the insane in the populations of Western nations. To account for this, Major Ewens adduces the greater simplicity of life, the effect of climate, tradition, and training in rendering the people fatalistic and patient, and lastly, the fact that as very many insane persons are untreated there is probably a great percentage of mortality among them, and consequently the establishment of a natural check upon the transmission to posterity of the tendency to the disease. Another striking peculiarity in the incidence of the disease is the smallness of the numbers of affected females—namely, very nearly as 1 to 5 of affected males. This the author attributes for the most part to the way in which disease occurring among women is studiously concealed.

It appears that, so far as the asylum population is concerned, cases of mania far outnumber other varieties of insanity. Simple melancholia is scarcely seen, for persons so afflicted are conveniently retained at home and are allowed to do as they will. If they do show any troublesome tendency they are tied to the leg of a bedstead or to a tree, and at intervals bled or treated by charms or by other methods which are more highly esteemed among the people than is any form of treatment received at an asylum, no

matter how sedulous and sympathetic it may be. Superstition interferes, even as it does in certain circles in this country, with efficient treatment. Given an adhesion to religious practices, the most extravagantly insane acts are condoned as those of a god-inspired man. The author quotes the case of a poor feeble old woman who begged the authorities to give her back her helpless, filthy, and demented son, as she wished to put him in the gate of the village to be consulted as an oracle. In another case the patient was so insane as to be incomprehensibly incoherent, and so deficient in control that he once committed a murder, but was nevertheless regarded by the whole of Lahore, Hindoo and Mahomedan alike, as a holy and powerful man who could, if so inclined, grant his applicants any favour, and was visited daily, not only by the poor, but also by the rich merchants, and even by graduates and native medical men trained by Europeans, men who could for examination purposes discourse learnedly on the causes and symptoms of this very disease, but whose sentiments and superstitions were more powerful than all their learning in governing their conduct.

Marriage in India is contracted in very early life, but there is nothing to bear out the assumption that the offspring of such marriages are mentally defective. Indeed, healthy children are in these cases plentiful and idiots are rare. Major Ewens has written special chapters upon Opium, Indian Hemp, Malaria, and Sunstroke in connexion with insanity. He is of opinion that opium, *per se*, never directly causes insanity. In the Punjab opium eating is such a widespread habit that, had it any direct power of causation, the author is quite certain that some cases would have come under his observation, but as a fact no single clearly established case has come to his notice, and he confidently asserts that the use of the drug has no permanent mental effect. A short chapter contains an account of the law relating to Insanity. A wholesome feature of the law as administered in India seems to be its simplicity.

The book should prove a useful one to physicians practising psychiatry in India, but we cannot refrain from expressing a regret that the author has not paid a little more attention to literary style.

Diseases of the Nervous System for the General Practitioner and Student. By ALFRED GORDON, A.M., M.D. Paris, Associate in Nervous and Mental Diseases, Jefferson Medical College, &c. London: H. K. Lewis. 1908. Pp. xii.-487. Price 12*s.* 6*d.* net.

THE author informs us in the preface to this book that it was written in response to the "continuous complaint" of students and general practitioners that they cannot get hold of a book which gives them a plain and practical account of the diseases of the nervous system. The complaint is not a very reasonable one and we have not heard it often. We do not ourselves feel sure that this book, though written for the very purpose, is well adapted for the needs of students, as we believe that what they most require is a clear account of the elementary facts upon which the broad diagnosis of the nature of nervous lesions is based, such as the distinction between the phenomena of lesions of the upper and lower segments respectively of the motor tract, a well-devised system of routine examination of all cases to bring out the salient features, and a careful study of some of the affections most commonly met with in practice. In this book we have first an adequate chapter on the anatomy of the nervous system, illustrated by figures taken mostly from Morris's "Anatomy"; this is followed by a very brief account of the method of examination to be adopted, extending over barely 15 pages, of which six are devoted to electrical testing and in which no account is apparently taken of the mental condition of the patient; then follow chapters dealing with special affections. The list of conditions dealt with is very full, including not only the diseases usually recognised as nervous, but also some not generally so classified, such as Graves's disease, myxœdema, achondroplasia, acromegaly, and so forth.

We feel that for students, at all events, the space available would have been better occupied by fuller accounts of common conditions, the affections just mentioned being omitted and also some of the rarer affections such as Dubini's chorea or cerebellar heredo-ataxia. The very fulness of the list of maladies may, however, constitute a virtue in other eyes. There can, however, hardly be a difference of opinion as to the author's habit of frequently referring the reader to his writings in the medical journals, as neither students nor general practitioners can be supposed to have leisure for this form of research.

The book is well printed, though we are surprised to find American forms of spelling, such as "fibers," "anemia," and "hemorrhage," in a volume issued by an English publisher. It may be useful as a book of ready reference for the teacher of nervous diseases, scarcely for the direct perusal of his class.

Green's Encyclopædia and Dictionary of Medicine and Surgery. Vol. IX., Rhinoliths—Thermotaxis. Vol. X., Thiersch—Zymotic. London and Edinburgh: William Green and Sons. Pp. (Vol. IX.) 600 and (Vol. X.) 609. Price 15*s.* each volume.

NUMEROUS interesting articles appear in Vol. IX. of this publication. Of those which did not appear in the "Encyclopædia Medica" two may be specially referred to. One on the Medical Examination of Schools and School Children, by Dr. W. Leslie Mackenzie of Leith, is of considerable importance at the present time, as much attention has been publicly drawn to the subject. An interesting account is given of the various commissions which have investigated and reported on the matter in this country, and a reference is made to the measures which have been adopted on the continent. Dr. Mackenzie maintains that medical inspection of school children is no isolated phenomenon, but "part of a world movement towards personal hygiene." Hitherto, he points out, the energies of the public health movement have been mainly exercised in securing a good environment. "The new public health departure of the twentieth century is the effort to increase the capacity and fitness of the organism." We endorse his statement that the fundamental proposition of this movement is that the early nurture of the child is a primary factor in the development of the adult. Hitherto it has been assumed that the children are normal, but unfortunately this assumption has been upset by masses of facts to the contrary. The ignorance of parents in regard to the ordinary necessities of a healthy life is astounding, and doubtless the care which is to be exercised in the future over the children by means of medical supervision will prove of immense advantage to the nation. The other article, which is new, is one on the Status Lymphaticus, by Dr. W. H. Wynn of Birmingham. He comments on the various theories that have been advanced to account for the sudden death which so frequently occurs in children suffering from this condition, and maintains that in future investigations on lymphatism especial attention should be directed to the thyroid gland. Recent advances in the knowledge of syphilis have been taken notice of in a contribution by Mr. D'Arcy Power dealing with the causal agent of that disease—the spirochæta pallida—and the serum diagnosis of the malady.

Volume X. brings the work to a conclusion. It contains, amongst numerous other articles, a group of contributions

treating of the Morbid Conditions of the Uterus, and a long paper on Pathological Changes in the Urine by Dr. A. E. Garrod and Dr. J. H. Drysdale. The articles on Toxicology (Dr. J. Dixon Mann) and Dangerous Trades (Sir Thomas Oliver) are also worthy of notice.

The whole publication forms a valuable work of reference for those engaged in general practice. The articles are for the most part full and well written, and although doubtful theoretical points are not discussed at any great length, yet the remarks on diagnosis and treatment are all that can be desired—in other words, the Encyclopædia is essentially useful for practical work.

The Operations of General Practice. By EDRED M. CORNER, M.A., M.C., M.B. Cantab., B.Sc. Lond., F.R.C.S. Eng., Surgeon in charge of Out-patients at St. Thomas's Hospital, and to the Children's Hospital, Great Ormond-street; and H. IRVING PINCHES, M.A., M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., Clinical Assistant to the Children's Hospital, Great Ormond-street. Second edition, revised and enlarged. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 338. Price 15*s.* net.

THE very rapid sale of the first edition of this book shows that it has met a demand, and this second edition contains several alterations, and especially a chapter on new operations. We might repeat all the favourable opinions which we expressed on the first edition. It is a thoroughly good book and likely to prove very useful for those for whom it is intended. It becomes nowadays increasingly difficult to draw a line between those operations which are suitable for a general practitioner to perform and those which should be undertaken only by a surgeon who devotes himself specially to operative surgery, which is another way of saying that under the modern curriculum a very large number of men start their professional careers with a fine surgical equipment. Certainly there is little included in this treatise which would be beyond the powers of the general practitioner who has had an opportunity of putting with sufficient frequency into practice what he has learned, read, and seen. In the section dealing with incisions the authors say that it is important that a cut should not be "shelving"; they do not seem to be aware that shelving incisions are followed by less conspicuous scars than those which follow incisions made with a knife held perpendicularly—the fact that our criticism is limited to such remarks as this and the one that follows sufficiently shows our estimate. The lists of instruments required at different operations are likely to be useful, but everyone who operates should remember that it is not rare for operations to prove more difficult and complicated than was thought probable; it is therefore desirable for the surgeon always to have in reserve at an operation any instruments which may be required.

Atlas und Grundriss der Gerichtlichen Medizin. (Atlas and Rudiments of Legal Medicine.) Herausgegeben von Dr. GEORG PUPPE. Two volumes: Vol. I., pp. 692; Vol. II., pp. 335. Price M.20. München: J. F. Lehmann's Verlag. 1908.

THIS work is practically a new and considerably enlarged edition of the "Atlas of Legal Medicine" by Dr. E. von Hofmann, which was published in 1898. The letter-press has been considerably amplified and many new illustrations have been added. There are now 70 plates in colours and 204 illustrations in black. We believe that the value of a work on medical jurisprudence is considerably added to by a copious employment of illustrative cases and good illustrations. The volume now before us contains a large number of reproductions of photographs and original drawings of various lesions and pathological conditions taken directly from actual cases, and its practical utility has gained much thereby. The illustrations are well chosen and beautifully reproduced, and every subject comprised in legal medicine is represented. An English translation of Dr. Hofmann's work was made, and we hope that the same course will be taken in reference to Dr. Puppe's work. Unless translated the information contained in it can only be appreciated by comparatively few English readers, but as a work of reference as well as a text-book it deserves a large circulation.

LIBRARY TABLE.

A Manual of Surgery for Students and Practitioners. By WILLIAM ROSE, M.B., B.S. Lond., F.R.C.S. Eng., Emeritus Professor of Surgery and Member of Council, King's College, London, and formerly Senior Surgeon to King's College Hospital; and ALBERT CARLESS, M.S. Lond., F.R.C.S. Eng., Professor of Surgery in King's College and Surgeon to King's College Hospital; Examiner in Surgery to the University of London and to the Victoria University of Manchester. Seventh edition. London: Baillière, Tindall, and Cox. 1908. Pp. 1376. Price 21*s.* net.—We have had the pleasure on many previous occasions of noticing the issue of new editions of this Surgery, and on each occasion we have been able to praise the general character of the work, and the efforts of its authors to make each succeeding edition fully representative of the surgery of the day. It is doubtful whether at any previous period the progress of surgery has been more rapid than at present, and this fact entails a great strain on the writers of text-books who endeavour to keep them up to date. The authors of this Surgery have been very successful in revising their book, and it is now, as it has been ever since its first appearance, a trustworthy guide to the student and practitioner. The compass of surgery is so vast that some compression is needed to squeeze the whole subject even into 1400 pages, and some sacrifices must be made, but we would ask the authors to do their utmost to prevent the further enlargement of the book. Each issue sees an increase in size and for practical purposes the work can grow too large. We have nothing but praise for the book, and the interesting preface by Mr. Carless shows that he also has a due appreciation of the difficulties of including in a text-book all that should be present while keeping to a reasonable size. Excisions may, however, be possible even if additions are necessary. He would be bold who would venture to predict the position of surgery 20 years hence. We may be sure that many new operations will have been devised and performed, but it is also possible that some present operative procedures will have been rendered unnecessary by inventions and discoveries of other methods of treatment.

Atlas der Syphilis und der Venerischen Krankheiten, mit einem Grundriss der Pathologie und Therapie derselben. (An Atlas of Syphilis and Venereal Disease, with an Introduction to their Pathology and Treatment.) Von Hofrat Professor Dr. FRANZ MRACEK in Wien. Second enlarged and improved edition, with 81 coloured plates after original water-colour drawings by A. SCHMITSON. München: Verlag von J. F. Lehmann. 1908. Pp. 218. Price M.16.—Lehmann's Hand Atlases are too well known to need much praise, and one of the best of them is this volume dealing with syphilis and other venereal diseases. So far as these affect the skin and mucous membranes, they lend themselves readily to pictorial representation, and the employment of colours increases enormously the value of the drawings. In this country it is only a very large circulation which can render possible the sale of 81 coloured plates and a text-book for 16*s.*, and many of our authors must wonder how these things are managed in Germany. The work

does not deal with the syphilitic lesions of the bones and other deep structures, so far at least as the illustrations are concerned, but the text does give a brief account of these. The student who reads German cannot have a better series of plates for the study of cutaneous and mucous manifestations of venereal disease.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. II., No. 6 (April, 1909). London: Longmans, Green, and Co.—Amongst the communications to this volume of the Proceedings which have not been reported already in THE LANCET are the following. In the Clinical Section a case of malignant tumour in the spinal meninges, with invasion of the cord, secondary to carcinoma of the mammary glands, with other metastases, by Dr. H. Macnaughton-Jones. In the Dermatological Section are reports of cases of urticaria pigmentosa in a girl, aged 10 years, and of trophic lesions in a boy of four years, by Dr. J. L. Bunch; of a doubtful case, possibly sclerodermia of the penis, by Dr. E. G. Graham Little; of acne varioliformis in a man, aged 37 years, by Dr. T. Colcott Fox; of a case showing the curative effects of x rays on scar keloid in a boy of six years, illustrated by reproductions of photographs of the boy before and after this treatment was adopted, by Dr. J. H. Sequeira; and of a case of syphilitic elephantiasis of the lips, by Dr. A. Whitfield. In the Electro-Therapeutical Section Dr. H. Lewis Jones writes on the treatment of nævus by electrical methods, with notes on 1600 cases. A valuable paper in which the author describes the respective scope of action of electrolysis, the galvano-cautery, high-frequency applications, x rays, and radium in the treatment of nævi, port-wine marks, and stellate veins. In the Laryngological Section Dr. J. Dundas Grant describes cases of Hunterian sore inside the lip of a young woman, of laryngeal tuberculosis improved by galvano-caustic puncture, and of a similar case in which the same treatment has been started. Dr. H. Lambert Lack describes a case of telangiectasis with epistaxis; Mr. W. Stuart-Low a case suggested to be one of thyroid tumour of the tongue; Mr. C. A. Parker a case of chronic infiltration of the larynx; and Dr. G. William Hill a case of crescentic subglottic web or hyperplasia in a syphilitic subject, causing stenosis of the anterior half of the lumen of the larynx. In the Obstetrical and Gynæcological Section Dr. W. Rivers Pollock describes a specimen of bilateral ovarian dermoids removed post mortem from an old lady aged 92 years. Mr. W. Gifford Nash records cases of torsion of a parovarian cyst during pregnancy, of hæmorrhage into an ovarian sarcoma producing symptoms resembling torsion, and of hæmorrhage into the peritoneal cavity following a strain, a case in which the great omentum, infiltrated with blood, was removed by operation. Dr. H. Russell Andrews contributes a case of twin pregnancy in a Fallopian tube; Dr. A. H. N. Lewers, an account of a fibroid tumour spontaneously expelled from the uterus seven and a half weeks after delivery; and Dr. H. R. Spencer two cases of ovarian fibroid complicating pregnancy. The Odontological Section is occupied by a paper of exceptional general interest in which Mr. Ashley Densham reviews the progress of dental science and literature from the earliest ages.

The Birmingham Medical Review.—In the February number of this review Dr. D. C. Lloyd Owen writes on the influence of the sexual organs on affections of the eye in women and suggests a toxic origin for such troubles, the catamenial flow normally eliminating some poison which may otherwise accumulate in the system. Mr. Leonard P. Gamgee discusses the indications for and against removal of the gall-bladder, which should not be done as a routine operation in cases of gall-stones nor in the presence of obstruction of the common duct.

The Bristol Medico-Chirurgical Journal.—The fifth annual Long-Fox lecture was delivered by Mr. J. Herbert Parsons on Nov. 5th, 1908, and is published in the March number of this magazine. He deals with metastatic inflammations of the eye, and maintains that sympathetic inflammation is due to invasion by bacteria which are pathogenic only for the eye. Dr. George Parker writes on transient cerebral paralyses, many of which he believes to be due to localised anæmia of the brain, and Mr. A. L. Flemming on vomiting connected with anæsthesia. An interesting account of Thomas Dover, physician and merchant adventurer, is given by Dr. J. A. Nixon, who defends our ancient colleague against the accusation brought by Professor Osler that he was a buccaneer who was thorough both in medicine and piracy. A series of six articles is devoted to the merits and demerits of milk.

The Edinburgh Medical Journal.—The late Sir William Gairdner, who suffered from heart-block and the resulting symptoms known as the Stokes-Adams syndrome, kept some record of his malady, and this historic instance of the condition is discussed by Dr. G. A. Gibson and Dr. W. T. Ritchie in the April issue of this journal. Dr. R. W. Philip gives an interesting and useful account of the proceedings of the International Congress on Tuberculosis at Washington, which was notable for the increased favour shown to treatment by various forms of tuberculin. Among these Béraneck's preparation seems to be coming to the fore.

The Dublin Journal of Medical Science.—In the April number Dr. Walter G. Smith records an unusual case of Lupus Mutilans, in which the destruction of the extremities of the fingers resembled the lesions of leprosy. Illustrations are given of the deformity produced and skiagrams of the bony changes accompanying them. Sir John Broadbent writes on Prognosis in Valvular Disease of the Heart and Sir Charles A. Cameron on an Outbreak of Typhoid Fever caused by Infected Milk.

The Medical Chronicle.—Lesions of the diaphragm are dealt with in two articles in the April issue of this journal. In the first Dr. E. B. Leech and Dr. C. H. S. Redmond narrate two cases of Congenital Diaphragmatic Hernia and discuss the phenomena of this condition, which is seldom recognisable by symptoms and signs during life. In the second Mr. E. D. Telford records two cases of Rupture of the Diaphragm, in one of which the patient lived 91 days after the accident and attended to her ordinary duties. Dr. E. M. Brockbank gives post-mortem notes of the cases of aneurysm of the aorta which have occurred in the Royal Infirmary, Manchester, during the last 40 years.

The West London Medical Journal.—A clinical lecture by Dr. Seymour Taylor on Epilepsy published in the April issue of this magazine calls attention to some nervous conditions allied to ordinary epilepsy, especially to cases of nocturnal, and occasionally of diurnal, enuresis. Dr. E. Furniss Potter writes on Submucous Resection as an Operation for Deformities of the Nasal Septum, and Mr. Aslett Baldwin on the Treatment of Appendicitis.

NOTIFICATION OF BIRTHS ACT.—The Brighton town council on May 6th decided to adopt the Notification of Births Act and to appoint a female to act as health visitor and superintendent of midwives at a salary of £80 per annum. The sanitary committee, on whose recommendation the Act was adopted, met with considerable opposition on the ground of the additional burden on the rates, but eventually carried its point by a large majority. It was stated during the discussion that 132 authorities had now adopted the Act.

THE LANCET.

LONDON: SATURDAY, MAY 15, 1909.

Medical Inspection of School Children and the Treatment of the Inspected.

WE invited attention last week in an annotation to some of the difficulties of a question which is becoming an urgent one in relation to elementary schools—the question, namely, of the methods and the system of organisation which would be most likely to cope successfully with great groups of juvenile disorders involving elements of danger to the community, or, being maladies of a disabling character, which interfere with the results of education, and render the suffering individuals less useful or less capable than others. We were discussing only the position in London, though that position may at any moment be parodied in other big cities, and we were considering mainly the case of unquestionable objects of charitable treatment. We gave reasons for our hope that no serious endeavour would be made by the London County Council to impose upon existing hospitals the work of ascertaining and providing for the wants of school children in relation to sight, hearing, and dentition; and we pointed out that the acceptance by the hospitals of subsidies for meeting the expenses of such work would almost inevitably entail demands for a share in the management of the institutions concerned, and would so far be fatal to their independence. On these grounds, and still more by reason of the general harmony which should exist between the governing bodies of hospitals and their medical and surgical officers, we felt able to dismiss the fear that either the institutions themselves or the staffs concerned in working them were likely to be "exploited" in the cause of so-called economy, or in the interests of the great body of ratepayers, to the exclusion of that important section of those ratepayers—the members of the medical profession. Our views with regard to this aspect of the question have been confirmed by further consideration and inquiry; and we trust that, except in the discharge of their proper functions in dealing with cases of an exceptional kind or of exceptional severity, the great hospitals will be left outside of what may be called the ordinary mechanism for the discovery and treatment of school ailments. It is probable that joint resolutions on this matter will be arrived at by the medical staffs of the general and special hospitals; and that the hospital authorities will be largely guided in their action by the opinions of their staffs may, we think, be taken for granted.

We have more than once pointed out, what was probably entirely overlooked by the politicians originally responsible for the Education Act of 1870 and for the earlier developments which proceeded from it, that the expenditure of public funds in providing compulsory education necessarily implied expenditure in many other directions for the purpose of securing that the primary outlay upon schools and teachers should not be absolutely wasted. The State, by its provision of education, has, so to speak, *invested* in the children, and it is both entitled and even required in the interests of the taxpayers, whose money would otherwise be squandered uselessly, to look after its investment, and to obtain from it, as far as may be possible, a profitable return. The State does not fulfil its duties to the taxpayer by merely securing that the children attend school; it is bound to secure also, as far as this may be possible, that they derive benefit from going there, and are rendered better and more capable citizens as an effect of the education they receive. It cannot even attempt the discharge of this duty without becoming aware that many of the individuals composing its investment are handicapped in a variety of manners, all of them tending to diminish the prospect of profitable schooling; and in this way public opinion has gradually been brought towards (or even to) the conclusion that many of the evils which afflict adult members of the community have their roots in ill-health or in mismanagement during childhood, and might be prevented, to the great advantage of the nation, by the exercise of proper care for the welfare of the young. The children, in a totally new sense, have become the property of the nation, and the nation has acquired a right to protect them from the carelessness or ignorance of their parents, and to provide, for those whose necessities require it, whatever form of exceptional treatment the conditions which they present may indicate. Such conditions, no doubt, will multiply under careful examination, but in the meanwhile we have chiefly to do, as regards the eyes, with errors of refraction requiring spectacles, and with the results of syphilitic inheritance or of contagious conjunctivitis. As regards the ears, we have not only imperfect hearing as a result of disease, but also internal suppuration with the manifest dangers which it entails; and as regards the teeth a widely spread prevalence of caries and its consequences. In these directions, as far as the conditions of modern practice are concerned, we have to deal with what are commonly regarded as "specialties," and it is probable that a considerable proportion of general practitioners would be inclined to avoid undue responsibility with regard to them. We have also a great variety of conditions which ought to appeal to the general practitioner, such, for example, as rickets in all its forms, rheumatism, tuberculosis, adenoids (so far at least as the recognition of their presence and importance is concerned), and many others which it would be tedious to enumerate. Regarding the question as a whole, it would seem that the requirements of the case would be most adequately provided for by the employment of general practitioners, supplemented, as regards vision, hearing, dentistry, and other emergencies, either by recourse to hospitals endowed for the purpose of giving such assistance or to specialists employed and remunerated for these definite purposes.

The circumstances in which the need for medical services

on these or similar lines has come to be recognised point clearly to the necessity that the services should be effectually rendered and to the corresponding necessity that those rendering them should be adequately paid. The experience of Germany seems to lean to the institution of "school clinics" as the most economical and convenient arrangement for securing the medical attention that is required in towns; and it is manifest that such clinics could be easily established in every large town, placed so as to be conveniently accessible from groups of schools, and officered by two or three or more of the neighbouring general practitioners, with the aid, when necessary, of dentists, and of ophthalmic or aural specialists, whose visits might be made as frequently as the needs of the locality required. But the services of all concerned must be paid for.

The Roentgen Ray Treatment of Ringworm.

THE existence of numerous parasites in the human body is characteristic of savage and uncivilised races, and one of the many evidences or results of civilisation is the reduction in the number of parasitic animals and plants infesting the body. The animal parasites, both external and internal, are on the whole more easily removed, or their attacks prevented, than is the case with the parasitic plants. The ordinary practice of cleanliness will usually suffice to prevent or remove external animal parasites, and the introduction of soap and the frequent change of clothing have almost eradicated them from the more educated inhabitants of the civilised world. The ease with which these parasites regain possession of such of the lower classes as neglect these simple hygienic measures shows the importance of the precautions. Vegetable parasites are even more prevalent than animal, and the large group of microscopic plants affecting the hair infest a large proportion of the children of this country, for even the children of the more wealthy classes are attacked to no small extent, although these diseases are certainly more prevalent amongst the poor. For many years ringworm has been the opprobrium of dermatologists; cases have sometimes resisted for years the most energetic treatment, and even when more successful the treatment would often extend over many months. The sole cause of this difficulty in destroying the fungus is the difficulty of reaching it. When the organism exists in a superficial position, as in tinea circinata, its destruction is easy, and the disease is cured with one or two applications of suitable remedies. But the fungus of ringworm, ensconced deeply in the follicle, bids defiance to the most energetic parasiticides, for they cannot reach it.

Dermatologists are agreed that no antiseptic can be made to penetrate into the depths of the hair follicle, and that all efficient modes of treatment of ringworm of the head act by exciting an inflammation of the follicle, by which the hair and its contained spores are extruded and a new, unaffected hair is subsequently formed. Until recently, however, no entirely satisfactory method was known of producing this ejection of all the diseased hairs. But soon after the discovery of the Roentgen rays it was found that the rays had the power of causing a temporary loss of hair, and when they were employed in ringworm it was found that in certain cases the new hairs which grew after the throwing out of the old hairs were quite free from the disease. Investigation has shown that the x rays have no bactericidal power, and therefore have no direct action on the fungus of ringworm; they merely cause a rapid and complete epilation of all the hairs, whether diseased or healthy, of the part exposed to their influence. The success obtained in some cases stimulated the application of the method to a large number of children affected with the disease, but the results were uncertain. In many cases the remedy was applied inadequately, so that the epilation was imperfect, and some diseased areas were left. In other cases the application was excessive, and a dermatitis of greater or less severity was caused. These occasional undesirable effects increased the caution with which the rays were applied, with the result that the proportion of cases increased in which a complete cure was not produced. The method employed consisted in giving many exposures, each of a few minutes' duration, and at intervals of a few days. In this way the dose of x rays administered was rarely sufficient to cause a complete epilation, with the result that some diseased hairs were almost always left. This condition of affairs continued until SABOURAUD published his method. It was SABOURAUD who had first demonstrated clearly the plurality of the fungi giving rise to ringworm, and by his method of treatment he has now revolutionised the therapy of ringworm. The desideratum was an accurate method of measuring the power of the x rays. To define the ampèrage of the primary current was something; to define the volume of the secondary current was of still more value; the distance of the lamp from the patient's head was also of vital importance, but even when attention was paid to all these factors the results were still not uniform. SABOURAUD employed a method for long in use by photographers in estimating the actinic value of light. He had a pastille made composed of a substance darkening on exposure to the x rays. He found the amount of exposure required for complete epilation, and defined the tint attained by the pastilles during that exposure, thereby at once placing the treatment on definite lines. The child's head is exposed to the rays until the pastille has reached the tint of a card surrounding it; the rays are then stopped. The time required varies from 15 to 20 minutes, and the single exposure is sufficient. In two or three weeks the hair falls out, and in a few weeks more the new hair begins to appear quite free from the fungus.

At the Hôpital Saint-Louis, the method has practically replaced all other treatment, and in this country it is being extensively employed. At several of the general hospitals it is used, and especially worthy of mention is the fact that it is employed at the ringworm schools of the Metropolitan Asylums Board. Here, under the care of Dr. T. COLCOTT FOX, a large number of children suffering from ringworm have been successfully treated by this method; up to the present time some 1500 have undergone the treatment, with the result that the stay of each child in the school has been greatly shortened, so that it has been possible to close completely one ringworm

school and also a block of the other school. The average time taken to cure a case has been reduced from some 18 months to three and a half months. In the ringworm school in Paris the cost per child has been reduced from 2000 francs to 260 francs, that is to say, to almost one-eighth part of the former cost. It is thus a means of great saving, not only in the cost of treatment, but in the time during which the child is unable to associate with healthy children. The same method is applicable to favus, and this is of importance, for the free admission of diseased aliens is bringing us yearly large numbers of children suffering from this disease, which is especially prevalent amongst Polish and Russian Jews. The London County Council is proposing to introduce the x ray treatment of ringworm, and all who are competent to decide the question from a practical knowledge of the subject are agreed that it is by far the best method of treatment with which we are at present acquainted.

The questions here naturally arise:—Is the x ray treatment of ringworm entirely free from risk? Is it not possible that, eminently successful though it may be in removing the disease, it may produce harmful effects which may manifest themselves later? The public imagination has been stirred in this direction by a communication to the *Times*, in which the fear is expressed that the delicate brain of the child may be damaged by the x rays, so that, even though no harmful effects may appear at the time, the rays may so impair the cerebral tissue that its growth will be mischievously affected and its development checked or even rendered impossible. Those who would maintain such views point to the x ray burns and the malignant growths which have appeared in those who have been much exposed to x rays. We are fortunate to be able to print in this number of THE LANCET two papers bearing on the question of the x ray treatment of tinea, one by Dr. J. M. H. MACLEOD and the other by Dr. H. G. ADAMSON, and they are based on an extensive personal knowledge of this method of dealing with ringworm. The essential principle of the modern method is the accurate adjustment of the dose of x rays, so that the desired effect, the removal of the hairs of the area treated, shall be produced with unfailing certainty, but so that no excess of rays can be administered. In this way the dermatologist can be certain of not producing any permanent alopecia of the scalp and of not causing any x ray burn. The only reaction produced is a transient erythema, which disappears even before the hairs have fallen from their follicles. It is clear that care and skill are required to produce the beneficial, and only the beneficial, results, and at first occasionally the reaction was excessive, sometimes apparently from the use of incorrect pastilles, but these undesirable effects do not appear now, and the skilled operator can guarantee the thoroughness and innocuousness of the treatment.

With regard to the harm that it is suggested may be done to the growing brain of children, what evidence have we that any such harmful effect is ever produced? The only answer that can be given is that there is not a tittle of evidence that the x rays in small doses such as those administered for epilation in ringworm have ever had the faintest ill-effect on the brain of the child. Even in the letter to the *Times*, to which we have referred, no evidence is brought forward that any harm of this sort has ever been known to follow the use of the x rays. We have been unable to obtain the slightest proof, or even the slightest grounds upon which to found a reasonable suspicion, that these rays exercise any pernicious influence on the cerebral tissue, and we agree with Mr. CHISHOLM WILLIAMS'S letter in our columns this week that such scares are very unfortunate. *A priori*, we should not expect any harm to result, for it is rare indeed even for the skin, directly exposed as it is to the rays, to suffer from the single exposure necessary for SABOURAUD'S method; the sitting is strictly limited in duration and only one application to any part of the scalp is needed. The harmful effects manifested in the skin in the case of x ray workers follow only after a prolonged exposure or after multiple exposures. Dr. MACLEOD records this week a series of experiments which he has undertaken in order to estimate the proportion of the rays which are capable of penetrating the scalp and skull, and by means of SABOURAUD'S pastilles it was found that even the thinnest portion of the parietal bone allowed only half of the effective rays to reach the pastille. In the case of the thicker parts of the bone the protection afforded was much greater. The scalp also appears to cut off about 30 per cent. of the rays, so that, even if we do not take into account the meninges, only about 20 per cent. of the x rays can reach the brain through the thin parts of the skull, a conclusion which, we believe, had been already reached by other observers. SABOURAUD himself, who has used the x ray treatment of ringworm for nearly five years, has never seen any nervous trouble, either temporary or permanent, follow upon it, and with this opinion all other observers agree. It is almost unnecessary to point out that in speaking of the harmlessness of x rays we have assumed that the treatment is carried out by a skilled and careful operator, but that is an assumption that must be made in relation to any important and delicate operation. Provided that due skill and care are employed, the x ray treatment of ringworm of the scalp is without doubt the most thorough and certain of the methods known to us at present, and, so far as our knowledge goes, it is perfectly free from harm.

The Biological Significance of Fever.

THE significance of the febrile reaction to infection by microbial agencies has been much discussed, and in common with many of the problems in pathology has of late been considerably elucidated by experimental researches into the nature of the protective mechanisms of the body and into the production of antibodies. Owing to the fact that the raised temperature in fever is the most striking feature in the febrile reaction the term fever has come to be used in a double sense, being sometimes restricted to that raised temperature, at others employed to designate the whole series of systemic disturbances which should more appropriately be referred to as the febrile state. Moreover, since an elevation of the body temperature may be produced by

a variety of conditions, independently of any specific bacterial infection, such as by exposure to very high external temperatures, by drugs, by injuries to or diseases of the nervous system, and by the injection of ferments and tissue extracts, it is necessary to restrict the term "fever" to that form produced by an infective agent or by its toxin, using the term "pyrexia" as a general expression to include all forms of raised body temperature.

The rôle and significance of the febrile temperature or fever in the organism in regard to infection is discussed in an interesting paper by Dr. FR. ROLLY of Leipsic, published in the *Münchener Medizinische Wochenschrift* of April 13th. He points out that by some authorities the raised temperature has been regarded as only productive of harm, by others it has been described as a beneficial adaptation on the part of the organism to combat the disease-producing agent, and by yet others as a condition having both harmful and useful aspects. The work of LIEBERMEISTER, who attributed the chief dangers of the febrile state to the raised temperature, and referred the parenchymatous changes in the organs and the general disturbances of function to the same cause, resulted in the general application of antipyretic measures in the treatment of prolonged and continuous fevers. So long ago as 1882, however, UNVERRICHT expressed the opinion that there was no convincing proof of the harmful nature of the febrile temperature, and suggested that, on the contrary, it was possible that it was a useful reaction on the part of the organism against the cause of the fever. Dr. ROLLY reviews the experimental researches which have been carried out to differentiate between the effects of the febrile temperature and those of the infective agent or its toxins, and adds the results of some special experiments devised by himself and his collaborator, Dr. MELTZER. In regard to the parenchymatous changes produced in organs he concludes that these are the result of the infective agent, and that the raised temperature plays little or no part in their production, probably none unless the temperature is greater than 40° C. Considering next the increased destruction of protein material in fever he finds that, although a high temperature does lead to increased metabolism, with temperatures under 40° C. the increase is almost negligibly small compared with that induced by the activity of bacteria and their toxins. This is determined by comparing the excretion of nitrogen in animals with increased temperature due to artificial overheating, or to lesions of the nervous system producing hyperthermia, with that of animals of the same species suffering from fever due to infection. By similar methods a like conclusion is arrived at in regard to the loss of weight and loss of appetite associated with the febrile state. The increased frequency of the pulse and of respiration, on the other hand, is to be attributed to the increased temperature in fever, and probably in most instances to this cause alone. Whether this reaction is beneficial or harmful Dr. ROLLY finds it difficult to determine, since on the one side it is possible that the increased circulation may assist in the more rapid elimination of the infective agent, whereas on the other the increased action may lead to cardio-vascular weakness. The vaso-motor disturbances in fever appear to be due to the infective agent and not to the raised temperature, since WELCH has shown that in animals with artificial hyperthermia the functions of the heart and vessels appear intact and blood pressure remains of normal height. In regard to the effects of elevation of the body temperature upon the functions of the nervous system it seems to be established that slight degrees of headache, restlessness, and insomnia may result, but any serious disturbance associated with fever, especially delirium and other disturbances of consciousness, are, according to Dr. ROLLY, to be attributed to the infective agent and not to the temperature. Considering the changes in the blood he found in collaboration with Dr. MELTZER that simple elevation of the body temperature causes a diminution in the percentage of hæmoglobin to the extent of 10 to 15 per cent. after periods varying from four to 18 days. The red corpuscles were as a rule not diminished in number, although the leucocytes might suffer a slight increase. These results confirm in the main the observations of WERHOVSKY on the same question, and are considered to indicate that any severe blood changes, especially in the red and white corpuscles, are the result of the activity of the infective process rather than of the febrile temperature.

Investigations were also carried out to try to discover proof of any beneficial influence of the raised temperature upon the course of an infection. UNVERRICHT suggested that the febrile temperature exerted a damaging influence upon the growth of the infective bacteria, and supported his view with an observation made by PIPPING that pneumococci were hindered in their growth upon bouillon by exposure to a temperature corresponding to that found in fever. Dr. ROLLY, working with Dr. MELTZER, found, however, that whatever might be the effect upon the growth of the bacteria in artificial media there was no evidence of a directly deleterious effect of the febrile temperature upon their growth in the living organism. They, therefore, attacked the problem from another standpoint and endeavoured to find out the influence of temperature upon the course of artificial infections in animals, but did not obtain concordant results until they produced infection by repeated injections of less than the minimal lethal doses of the disease-producing agent instead of one lethal dose, thus endeavouring to approximate the conditions of infection more closely to those of natural infection in man. They then found in a majority of cases evidence of a beneficial effect of the fever upon the course of the infection. They next studied the effects of the raised body temperature upon the known protective processes of the body. Starting with phagocytosis or the ingestion of bacteria and working with human leucocytes they found that their phagocytic power reached a maximum at about 39·5°–40° C., but that at temperatures of 41·5° C. and higher this power rapidly diminished. Since the phagocytic power is greater at temperatures above normal than at the normal level they conclude that in infections where phagocytosis plays a part in protection the raised temperature is beneficial and assists that process. Next as regards the specific protective substances formed in response to bacterial invasion the agglutinins are easy to measure quantitatively, and they found in rabbits that these substances are formed more

quickly and in greater amounts in artificially heated animals than in those kept at the ordinary room temperatures. In like manner they found that the production of bacteriolysins and antitoxins is favourably influenced by the raised temperature of fever.

In summing up the results of his analysis of fever Dr. ROLLY concludes that if the temperature remains raised only a moderate degree above the normal, it exerts on the whole more beneficial than harmful effects, and that fever represents a reactive process on the part of the body whereby it attempts to combat the bacterium causing the disease, or to neutralise its toxic products more rapidly. That the temperature sometimes rises to an excessive height and in so doing may exert directly harmful effects does not negative this view of the nature of the febrile reaction, but may be regarded as an instance of the "over-compensation" which was shown by WEIGERT to be a common biological characteristic, especially under pathological conditions; and this was adopted by EHRLICH as an important part of his theory of immunity. Professor ADAMI, discussing the significance of the febrile state, points out the analogies which exist between the reactions produced in the body by infective agents, enzymes, and tissue extracts, and regards them as due to the fact that in all cases antibodies are produced to neutralise these effects. He therefore concludes that just as "inflammation is the process of adaptation of the tissues to local injury, so is fever the process of adaptation to such toxic agencies as can be neutralised by the development of antibodies."[1] In support of this contention he points to the lowering of the temperature which results if an excessive dose of toxin be injected into an animal, and to the similar fall which often occurs in malignant fevers, as indicating a poisoning of the tissues and an absence or arrest of the febrile reaction. The interest of these observations is twofold: from the theoretical standpoint they serve to bring our ideas of fever into harmony with the general protective reactions of the body, and from the practical point of view they indicate that antipyretic measures and drugs should only be employed where there is hyperpyrexia or where severe nervous symptoms, such as delirium, stupor, and restlessness, together with disturbances of the circulatory and respiratory systems, render it necessary or desirable to reduce the temperature in order to relieve the patient's immediate condition.

Annotations.

"Ne quid nimis."

THE INFLUENCE OF SEWER AIR ON HEALTH.

FROM time to time laboratory experiments involving chemical as well as bacteriological and biological inquiry have been made with the view of determining in what way sewer air is concerned as a factor in disease. Long before such inquiries were made it was assumed that sewer air was prejudicial to health, for all sewage schemes included provision in the shape of interceptors, ventilators, and so forth, against the possibility of the air of the sewer reaching the dwelling house. Observations have, indeed, been made which appeared to prove that the more effectively sewer gases were kept out of our streets and dwelling places so was the environment made more healthy, as shown by a diminution in the returns of zymotic diseases. The same conclusion seemed justified by the statements that when low-level sewer ventilators in the streets were done away with in favour of high-level discharges a marked improvement in the health of the inhabitants took place. Experiments then made, amongst others, by Carnelly, Haldane, J. P. Laws, and F. W. Andrewes appeared to show that sewer air contains a small number of microbes as compared with external air, and the observers could record no ill-effect after they had been in contact with it. In one instance the air of a drain through which the sewage of a fever hospital was discharged gave negative results as regards fever organisms. Major W. H. Horrocks, R.A.M.C., in 1907 did work to show that specific bacteria present in sewage may be ejected into the air of ventilation pipes, inspection chambers, drains, and sewers by (*a*) the bursting of bubbles at the surface of the sewage; (*b*) the separation of dried particles from walls of pipes, chambers, and sewers; and probably by (*c*) the ejection of minute droplets from flowing sewage. This view has been recently confirmed by Dr. Andrewes in a Local Government Board report. Very practical in their intention also were the experiments of Dr. G. Alessi, who observed the effects upon the health of animals kept in an atmosphere of sewer air. His conclusions appeared to harmonise with what has always been regarded as the reasonable view of the question—namely, that sewer air lowered the resistance of the body and thus rendered it liable to attack by disease. In his own words, the inspiration of putrid gases predisposed the animals to the pathogenic action of even attenuated typhoid bacilli and of bacterium coli. This predisposing action he thought was due to a combination of gases given out by putrid fermentation and not to any separately. Finally, he concluded that this experimental predisposition is diminished by prolonged breathing of the said gases, the net result of his investigations being a confirmation of "what some authors had epidemiologically foreseen and social hygiene had practically and painfully confirmed." Against such conclusions has been quoted the immunity from disease enjoyed by sewermen, but, as is well-known, a continuous poisonous environment can confer a condition upon an individual which is opposed to pathological response. A very careful and well-planned investigation upon the question has now been made by Professor S. Delépine, director of the public health laboratory at the University of Manchester, and his conclusions form the substance of a report recently presented to the sewer ventilation committee of that city. In addition to an account of his own biological experiments the appendices give the details of other observations—general, chemical, and biological—by Mr. E. Gaul, M.Sc., Dr. E. J. Sidebotham, Dr. A. Sellers, and Mr. H. Heap, while Mr. Simons superintended the work connected with the arrangement of the apparatus in the experimental manhole. So far as the experiments have gone (and the experimental work is admirable in detail) the lesson of this report appears to be that what Professor Delépine calls normal sewer air is free from appreciable noxious properties. This conclusion, however, he adds, is not applicable to the air of sewers where, owing to the formation of deposits or for some other reason, the air becomes loaded with an unnecessary amount of noxious gases which are not normally present under other conditions. Nor does it apply obviously to sewers receiving certain kinds of trade effluents or waste products either poisonous in themselves, or liable to undergo changes or to produce compounds dangerous to health. In other words, Professor Delépine's results imply that so long as a sewer is well constructed and is dealing

[1] J. G. Adami: Principles of Pathology, 1909, Oxford Medical Publications, p. 448.

with dilute domestic sewage there is no reason for supposing that its emanations are prejudicial to health. The case is probably very different, however, when drains and pipes are foul or contain dried material, for then it is easily possible that the air escaping through such channels may contain impurities with marked pathogenic properties. The same may be said when the sewage is allowed to stagnate or decompose, in which case an unnecessary amount of noxious gases which are not normally present under other conditions is discharged, a contingency which if the sewer is in proper working order could not occur. The report, although not as complete as Professor Delépine would have wished it, teaches, at all events, the valuable lesson that no fears need be entertained about injurious or pathogenic qualities of sewer air so long as the sewer is properly constructed, acts well, and is not unfairly or improperly taxed.

THE SICULO-CALABRIAN CATACLYSM: REMISSNESS IN RELIEF WORK.

"THE English-speaking world," writes an Italian contributor, "by far the promptest and most free-handed in relieving the sufferers from the earthquake of Dec. 28th, 1908, is entitled to know how its largess has been employed and its active sympathy responded to. Sicilians and Calabrians themselves—interested as survivors of the visitation—have but one answer to give to that question, an answer summed up by one of the most authoritative of their number in the sentence: 'Little has been done, and that little badly.' These words of the eminent surgeon and senator Francesco Durante well-nigh a month after they were uttered in the Upper Chamber of Parliament are still without practical effect on the *status quo!* Nay, they are as true in the week now passing as when they wound up a debate on the situation in April last. On May 6th Signor Paniano, a prominent member of the Lower House, received the following telegram from Messina: 'For two days we have had rain and snow. The population "accommodated" in the huts—huts without doors, without windows, without tiles—are benumbed and dying of cold. We want to know to what Government we ought to turn for the provisions required. Signed: Martini, Vice-Syndic. Commenting on this appeal, one of the leading Roman journals writes: 'The whole country, which had a primary outburst of sympathetic solidarity in behalf of Sicily and Calabria, should follow that up with a second, not indeed to collect funds, but to insist on the proper application of those already collected.' As if to add a personal, not to say self-interested, motive to that which common humanity ought to inspire in accelerating and intensifying the relief work, a Catanian journal of about the same date as the above-cited telegram, under the title of 'Un Nuovo Flagello' (a new scourge), says: 'A strange, fierce crowd infests the dead city of Messina—a crowd of vermin and microbes, which take by assault the corpses disinterred by the eager avarice of those who, night and day, are grubbing for loot among the ruins,' and after a gruesome description of the maggots and insects subsisting on the putrescent dead, the journal adds: 'Meanwhile a fœtor, heavy as a cloud, destructive as a pestilence, ascends from the vast cemetery.' There may be exaggeration in this, as the official organs are fain to plead, but if only half of it be true it constitutes a severe indictment of the efforts, central as well as local, to retrieve a situation appealing, now these four months, to the sympathies of all Italians, not to say of the outlying world. The official organs referred to make much of isolated relief work at this or that centre of population to which the survivors have been deported. At Palermo, for instance, something has been achieved in the Clinica Pediatrica attached to the University Hospital and also in the 'Ospedale dei Bambini' (Children's Hospital). But while 'hand-to-mouth' relief has undoubtedly been practised here and there, and while cases can be quoted of effective assistance rendered to this or that sufferer, the net result is deplorably inadequate to the means and the resources, monetary and other, placed at Italy's disposal by a sympathising and generous world. Unfortunately her record in visitations of a similar kind is by no means unimpeachable—witness the malversation of funds subscribed in Great Britain alone in 1883 for the victims to Venetian floods and Ischian earthquakes! Even as late as 1903, when Calabria succumbed to a 'telluric storm' only less disastrous than that of Dec. 28th, 1908, next to nothing was effected for the sufferers until a 'surprise visit' of the King brought the local authorities to a sense of their duties. It is unpleasant to have to write in this strain, but Italy, if she wants to keep, as she certainly has deserved, the sympathy of the outside world, must henceforth see to it that the help so amply, so promptly vouchsafed has been properly distributed and not, by carelessness, or remissness, or worse, been frittered away in the distribution."

SMOKE ABATEMENT.

THE report recently presented to the London County Council on the smoke abatement question furnishes further evidence as to the source of the evil, and in many particulars this evidence will be found analogous with that which we have brought to the notice of our readers in a practical form from time to time. It is pointed out that apart from the smoke emitted from trade premises serious smoke nuisance also arises from private houses. It is estimated that one-half of the smoke in London comes from this source, for which there is no legislative remedy. The emission from each individual chimney may be slight, but in winter probably one million domestic chimneys pour forth smoke daily into the atmosphere, and it is therefore evident that the total volume of smoke must be very great. It has been noticed that some of the densest London fogs have arisen on days when the great bulk of business premises have been closed. A bank of smoke has been seen to rise to a height of 3000 or 4000 feet and to be carried by the wind in a sunlight obscuring trail to a distance of 50 miles. Dr. W. N. Shaw of the Meteorological Office says the records show that owing to its smoke London loses half its sunshine in winter and one-sixth in summer. Many people advocate the abolition of the open fire in favour of the closed stove system in use on the continent, but the Public Control Committee in its report remarks that, while undoubtedly the general adoption of such a system of heating would result in a purer external atmosphere, this would be secured at the sacrifice of much of the fresh air indoors, for which open fires, by providing a good deal of ventilation, are largely responsible. The committee looks for a reduction of domestic smoke from the use of open fire grates which secure better combustion of coal, and from the growing use of gas and electricity for heating and cooking. There are nearly half a million gas cooking-stoves employed in London houses at the present time. To diminish domestic smoke materially public opinion needs to be educated, and a step in this direction is the instruction which is given to children in the day-schools in the principles of combustion, so as to make them grasp the fact that smoke is not inevitable but often results from the wasteful use of fuel. The committee does not suggest any action to deal with nuisance from the domestic chimney, but it points out that it may be necessary, unless public opinion brings about some radical improvement, to give serious

attention to this grave problem. With a view to collecting and disseminating information the committee recommends that the Council should obtain powers to spend not more than £500 a year in the advancement of measures for the abatement of smoke nuisance. The committee also suggests definite amendments of the Public Health (London) Act, 1891, which experience of the working of the measure has shown to be necessary. The most important of these is a proposal to delete the qualifying word "black" as applied to smoke. It is also desired to bring the premises of the Crown, of local authorities, and of statutory companies under the operation of the statute, and to obtain powers to deal with the nuisance arising from smoke drifting into London from premises situated outside the county boundary. This clause would be enforced by the London County Council, but the Act, as a whole, is administered by the borough councils. The Finance Committee, reporting on the proposals from a financial point of view, raises no objection so far as strengthening the powers of the borough councils is concerned, but it "views with apprehension" any proposal which might involve the County Council in increased expenditure of an unascertained amount. As we have said, the substance of these recommendations will be found in the pages of THE LANCET for the past decade or so as the outcome of several practical inquiries made by us upon the subject.

THE MORTALITY AMONG WORKHOUSE BABIES.

IT may be recollected that the early part of the third chapter of the Minority Report of the Poor-law Commission contained severe criticism of the maternity wards and nurseries of workhouses which had come under the observation of certain of the Commissioners, based partly upon conditions described as existing in them, and partly upon statistics of infantile mortality in workhouses and upon the comparison of these with figures relating to infantile mortality outside the domain of Poor-law relief. So startling were the figures that Mr. F. E. Smith, K.C., called attention to them in the House of Commons immediately by a question addressed to the President of the Local Government Board, and an amplification of the reply then given by Mr. Burns has since been issued by the Board as a Parliamentary paper. The paper criticises the figures of the Minority Report and in turn has been criticised by Mrs. Sydney Webb, one of the four members of the Commission responsible for that report. Mrs. Webb's able letter has appeared in several papers and the statement of the Local Government Board is obtainable through the usual channels at the price of 1*d*. It was pointed out in our first criticism of the Minority Report[1] that discussion as to the accuracy and justice of the figures and the arguments relating to this particular topic was inevitable, and the subject is one well worthy of attention. In the workhouse lying-in wards and nurseries a high percentage of mortality exists, to which and to possible means for preventing it the four Commissioners rightly drew attention; but in dealing with it statistically they relied in part upon figures which were unimpeachable, but which in some degree are open to the criticism of not being upon a sufficiently large scale to make it safe to generalise from them, and in part upon others of a more speculative nature, drawing conclusions from the combination of the two classes. Those conclusions and the data upon which they are based form the subject of the Local Government Board's statement, which Mrs. Webb characterises as a "white-washing report," and as to which it is true that so far as it goes it defends the workhouses, dissenting from the conclusions of the Minority Report. It confines its attention, however, to the subject of Mr. Smith's question—namely, the figures—and does not touch upon the conditions which were described in the Minority Report as existing more particularly in the nurseries and as contributing to, or as responsible for, the mortality to which the figures related. In fact, it seeks to repel only one portion of the attack aimed at the workhouses, for which the Board must accept a measure of responsibility. It points out the importance of considering pre-natal conditions in determining the causes of death among the infants in the lying-in ward of a workhouse infirmary, showing by a table that of 112 infants dying in the first week of life out of 2653 born in London Poor-law institutions 57 were prematurely born, 46 were doomed to early decease by congenital defects, atrophy, debility, marasmus, and inanition, the remaining nine succumbing to other stated causes. As an instance of statistical weakness the Board points out that in dealing with the later life of infants born in workhouses, who either remain in the institution or are taken from it in their first year, the Minority Report assumes that those who left the workhouse within the year had a death-rate equal to those who remained in the institution. Figures thus arrived at are clearly not to be relied upon in controversy, nor are any which are open to the criticism that they are based upon the observation of an insufficient number of cases or upon cases not properly related to those with which they are to be compared. Figures, in short, have to be handled with exactitude, in a spirit as little as possible that of the partisan, and with full knowledge of the circumstances to which they may be traceable. As an instance of what we mean, we take at random some percentages given in a footnote at page 782 of the report, where we read that "the proportion of infantile deaths to the births during 1907 was in the City of London Lying-in Hospital, 26·1 per 1000; in the East-end Mothers' Home, 21·07 per 1000; in Queen Charlotte's Lying-in Hospital, 26·1 per 1000; and in the General Lying-in Hospital, 59·3 per 1000." This might condemn at first sight one of the institutions named as deserving greater censure than the workhouse lying-in wards. As it is, it does nothing of the kind, for we neither draw nor suggest any conclusion from it. We also at present do not draw conclusions from all the figures upon which Mrs. Webb lays stress. We are, however, in accord with her when she calls attention to some which on their face are comparable, and we agree that inquiry is desirable as to the cause of serious differences in the rate of mortality where such exist "between adjoining unions in the same towns" or between unions whose circumstances are provably similar. We also observe that the Local Government Board's statement does not cover such allegations of fact as are contained in the first of Mrs. Webb's numbered conclusions, and that it does not deal with corresponding statements on the subject of workhouse nurseries made in the Minority Report, which its signatories are no doubt ready to justify. These questions of fact are capable of independent authoritative inquiry and are fit subjects for it. Moreover, the conditions complained of, if found to exist, are capable of amendment without recourse to legislation and without waiting for boards of guardians to be superseded by other bodies administering the same functions.

[1] THE LANCET, March 6th, 1909, p. 707

DIPHTHERIA AND ANTITOXIN TREATMENT.

OUR Swiss correspondent writes from Zürich that at the request of Professor Kroenlein, professor of surgery at the University of Zürich, Dr. Ph. Schoenholzer, his senior house surgeon, has published an extensive report on 3322 cases of diphtheria treated at the clinique during a period of 28 years. As in 14 of these years the old methods of treatment were employed and in 14 the modern antitoxin treatment, a comparison of therapeutic results is readily available. The antitoxin used for these patients was prepared

by the Federal Serum Institute of Bern. Out of 1336 patients treated in the pre-antitoxin period (from 1881 to 1894) 40 per cent., or 534, succumbed to the disease, whereas out of 1986 cases registered from 1894 to 1908 only 13·4 per cent., or 266, died from diphtheria. The mortality of the tracheotomised patients decreased from 66 per cent. during the first period to 14 per cent. under the antitoxic *régime*. The reduction of the death-rate in the other cases was from 32·5 per cent. to 6·8 per cent. The mortality rate varied considerably from year to year—under the old treatment from 27 to 56 per cent., under the new from 5 to 20 per cent.

THE HYGIENE OF THE HANDLE AND THE STEM.

THERE is a feature connected with the construction of certain modern drinking receptacles which in some circumstances is hygienically objectionable. We refer to the ordinary plain tumbler or goblet which has neither handle nor stem. It does not require the refinements of bacteriology or chemistry to indicate that in common places of refreshment the tumbler, the stemless glass, or the metal drinking vessel without a handle may readily be a source of contamination to the drinker. It is not customary any longer to drink tea out of a cup without a handle, and there are hygienic reasons in favour of the modern cup. It is surely a transgression against sanitary law or cleanly requirement that the edge or rim (or the space near it) of a drinking vessel is used both for lifting that vessel and for applying it to the mouth in order that the contents may reach the mouth. In public places of refreshment where it is the rule to serve drinks in tumblers, it is common enough to see the glassful of beer or whisky-and-soda handed to the customer by the serving person with his fingers and thumb on the rim—in fact, on that very portion of the glass which comes into contact with the drinker's lips. That is an obviously repulsive proceeding and one which should (as it easily can) be avoided. It would hardly be safe to assume that the hands and fingers of the barmaid or barman are scrupulously clean, and therefore the use of the tumbler or the handleless goblet in public places of refreshment is open to objection. We are quite sure that this argument will appeal to all cleanly persons, and that they will agree that it would be much more satisfactory if vessels with a handle were employed in public-houses, or if all glasses were provided with a stem. After all, the function of the stem and handle of drinking vessels is much the same thing, and in view of the above facts glasses either with stems or handles should be reinstalled in those places of refreshment where they have been discarded.

THE HAROLD BARNARD MEMORIAL FUND.

WE have received a circular letter signed by a committee consisting of the Honourable Sydney Holland, Dr. W. J. Hadley, Mr. E. Hurry Fenwick, Dr. A. Dashwood Howard, Dr. R. C. B. Wall, Mr. James Sherren, and Professor Arthur Keith, and stating that soon after the lamented death of Mr. Harold Leslie Barnard a number of his colleagues, friends, and pupils met to determine the best manner in which they could recognise his services to the London Hospital and to the progress of surgery. An examination of the manuscripts, unpublished observations, papers, and drawings which he left behind him made it clear to his friends that they owed him a double duty, not only to keep alive his memory, but to see that the results of his brief but laborious experience, of his keen observation and study, and of his vivid and ever-watchful imagination are suitably preserved for the use and advantage of all who serve the cause of medicine and surgery. It is proposed that Barnard's name be perpetuated by the publication of a memorial volume, which will include all his contributions to abdominal surgery. From the time he joined the staff of the London hospital in 1900 he concentrated his energy and ambition on the production of this work, but he died when his task was approaching completion. He had engaged two of his former pupils—Dr. F. Wood-Jones and Mr. Stanley J. A. Beale—to prepare drawings of his specimens for this work; these drawings are of special merit and will enhance the value of the work, but at the same time will add to its cost. It is hoped, therefore, that his friends and pupils will support liberally the attempt to fulfil the ambition of Barnard's career. The cost of publication of such a volume is estimated at £200. In the event of a sufficient sum being subscribed to cover the expense of publication it is proposed that each subscriber should be presented with a copy, but in the event of the total subscription falling short of the cost of publication that only those who subscribe 10*s.* 6*d.* and over should be entitled to a copy, the remaining copies being placed on sale. Mr. Sherren has offered, and the memorial fund committee has accepted, his services as editor of the work. A short biography, with photographs, will be contributed by his friend and pupil, Dr. H. H. Bashford. Dr. Cecil Wall, to whom Mr. Barnard confided his manuscripts and papers, has consented to act for the committee as honorary secretary and treasurer. The committee appeals with confidence to Mr. Barnard's friends and pupils to assist them liberally and promptly by forwarding their subscriptions to the honorary treasurer, at 6, Cavendish-place, Cavendish-square, London, W. This is an appeal which should commend itself strongly to all who knew Mr. Barnard and appreciated his tireless work in the cause of surgery. No more proper monument can be raised to any truly scientific worker than is to be found in his own writings, and we trust that the committee making the present appeal will meet with the support it rightly looks for and will be able to enshrine Mr. Barnard's contributions to surgical literature in a form worthy of the reputation which their author found time in a too short life to win.

AN AUTOBIOGRAPHICAL ACCOUNT OF THOMSEN'S DISEASE.

NOT since Thomsen's classical description of this disease in 1876 has it befallen the physician reporting it to be himself the sufferer. In the *Montreal Medical Journal* for November, 1908, Dr. Arthur Birt of Halifax, Nova Scotia, has devoted an article to the subject of the disease as it occurs in himself and his own family group. The diagnosis was made by the writer while he was still a medical student and it has since been amply confirmed. Ever since he can remember he has been afflicted with a painless stiffness and cramp on first attempting any voluntary movement, especially after rest. When a schoolboy he found this stiffness to be a source of great disability in sports and games. All the muscles of the body were liable to the condition, including those of the eye, tongue, and jaw, and since early manhood there has been no appreciable change. At the present time, conformably to the usual rule, the musculature is exceedingly well developed, although no systematic exercise has ever been taken for any lengthened period. The muscles feel firm to the touch, they quickly harden on palpation, and if they are put into strong voluntary contraction they are found for a number of seconds to be of iron hardness, which, however, rapidly passes off. The peculiarity of movement is entirely restricted to voluntary movement; the patient, on rising from a chair to walk away, is checked in his first step by a painless cramp of the extensors, and a similar accident occurs in the

other leg before the cramp in the first has subsided. When the second movement forward of the first leg is initiated the spasm has not yet relaxed, but the cramp this time is of less duration, so that with each succeeding stride the period of cramp becomes rapidly less and a normal gait is attained. In shaking hands firmly there is often inability to relax the finger flexion quickly, a trifle, as the writer observes, "which may give rise to misconstruction in ordinary social intercourse." The characteristic electrical reactions of the disease are readily obtained in Dr. Birt's case—viz., marked prolongation of the contraction both to faradism and galvanism, wave-like contractions from cathode to anode with the stabile method of application of the latter; there is also prolonged contraction on mechanical stimulation of the muscles. A sister of the writer suffered severely from the disease and died at adolescence; another sister shows traces of it, and two cousins are definitely affected. In the family there is a very clear neuropathic diathesis.

THE ADMISSION OF WOMEN TO THE DIPLOMAS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

WE have received from Dr. A. S. Morton and Dr. W. G. Dickinson, as secretaries of the Society of Members of the Royal College of Surgeons of England, a copy of a memorial sent by that society to the Home Secretary to protest against the mode of admitting women to the diplomas of the College, which is at present under Mr. Gladstone's consideration. The chief arguments used to support this protest are as follows. (1) That the effect of admitting women under the Act of 1876 will be to create an inferior order of Fellows and Members without any share in the management of the College; (2) that under this Act women Members of the College will be barred for all time from acquiring the position which it is hoped that the Members may ultimately gain in that management; (3) that the adoption of this Act by the Council of the College is a retrograde step in view of the position which women have attained in the medical profession since 1876, and that it is opposed to the policy of all modern Universities; (4) that a difference in policy on this matter between the Royal College of Surgeons of England and the University of London will create an added difficulty in the negotiations in which delegates from those bodies and from the Royal College of Physicians of London are engaged; and (5) that at the last annual general meeting of Fellows and Members a motion was carried unanimously—

That this meeting is of opinion that women when admitted to the diplomas of the College should have equal rights with men.

It may be of interest to our readers if we add the text of the proposed new by-law, to which previous reference has been made in THE LANCET:—

Section XXVI. Admission of Women.

1. Pursuant to the powers conferred by the Medical Act, 1876, and subject to the provisions therein and hereinafter contained, women may be admitted as Members and Fellows of the College and may obtain Diplomas in Dental Surgery on the same terms and conditions as men; and so far as it is necessary to give effect to this by-law, words in the By-laws and Regulations of the College which import the masculine gender shall also import the feminine gender, and all proper alterations shall be made in the form of the Letters Testimonial, Diplomas, Certificates, and Licences granted by the College.

2. Women shall not be eligible as members of the Council, and shall not vote at, or take any part in, any election of a Member or Members of the Council, or attend any meeting of Fellows or of Fellows and Members (except meetings convened for the delivery of Lectures or Orations), or otherwise take any part in the government, management, or proceedings of the College.

3. Women shall not be eligible as members of the Court of Examiners or for any examinership to which the Council appoint.

One more of the arguments used by the Society of Members in its protest to the Home Secretary is that paragraphs 1 and 2 of this draft are contradictory. We are unable to follow this reasoning. It appears to us that the words "subject to the provisions ..... hereinafter contained" in the first paragraph fully cover the exception made in the second.

THE LONDON COUNTY COUNCIL AND INFECTED EARS.

A FEW months ago[1] we recorded that the London County Council had made arrangements with the Queen Victoria Jubilee Institute for Nurses for the treatment of school children suffering from infected ears. The scheme provided that cards should be given to the parents intimating that free nursing treatment would be provided after a medical man had been consulted. We commented on the somewhat inconsequent action of the Council in prescribing on the card the treatment to be adopted (a course which left the medical man in charge of the case nothing to do but to sign his name) and at the same time adding, "It must be understood that the London County Council will accept no responsibility for the treatment prescribed or given." Other protests have been raised against this form of card, which has accordingly been redrafted. Instead of advising the parent to consult his own medical attendant or to "take the child to a hospital for medical advice," the parent will in future simply be notified that the Council is prepared to provide treatment "if recommended by a medical man." Then on the reverse side of the card a space is provided for the medical man to write his own prescription. As the whole question of the medical treatment of London school children is now under active discussion the treatment of infected ears will doubtless be brought into line with that of other ailments.

"INTESTINAL SAND" DUE TO THE BANANA.

MANY cases of the rare condition termed "intestinal sand" have been carefully investigated, but the subject is still involved in some obscurity. Two forms—true and false—have been distinguished. False intestinal sand is said to be composed of the remains of vegetable food which have resisted digestion with possibly an incrustation of earthy matter. In true intestinal sand such vegetable basis is said to be wanting; there is a much larger proportion of inorganic matter. This sand is therefore supposed to be an intestinal excretion. It is almost always associated with intestinal disorders, usually with membranous colitis. Among vegetable foods the pear is especially apt to produce intestinal sand, as it contains many sclerenchymatous particles which appear in the motions. The banana has been found by American writers to have a similar aptitude. In the *American Journal of the Medical Sciences* for March Dr. J. S. Myer and Dr. J. E. Cook have reported a case and shown that "intestinal sand" may be produced *ad libitum* by eating bananas. They make a very reasonable suggestion which simplifies the whole subject—that all "intestinal sand" is due to vegetable remains, and that when a large amount of salts is deposited the vegetable nucleus is overlooked. The alternative hypothesis that the sand is an intestinal secretion does not account for the 30 to 70 per cent. of organic matter which it has been found to contain. The fact that true intestinal sand is associated with intestinal symptoms Dr. Myer and Dr. Cook suggest is accidental, excepting constipation, which would favour deposition of salts. The association can be explained by the fact that only when intestinal symptoms are present are the fæces likely to be examined and sand observed. Mucous colitis, the disease in which sand has been most frequently observed, is also the disease in which the stools are most frequently examined, but only in a small minority is sand found. The following is

[1] THE LANCET, Feb. 13th, 1909, p. 488.

the case now reported. A woman, aged 24 years, complained of fulness in the abdomen and chronic constipation. The abdomen was tense and slightly tympanitic. The stools were intimately mixed with small black or brown sand-like granules. A stool was washed through a fine sieve and the greater part of the sand was found in the water. It was brownish and felt gritty. Under the microscope the sand was seen to consist of irregularly shaped more or less oval grains, varying in size from 0·05 to 0·2 millimetre in diameter. They were translucent and varied in tint from light yellow to dark yellow, brownish, and greenish yellow. By reflected light they had a beautiful appearance, resembling variously coloured quartz. They were hard and brittle and were crushed with difficulty under the cover-glass. On applying a strong acid gas was evolved and the sand became of a lighter yellow colour. Chemical analysis showed 17·2 per cent. of moisture; the residue contained 95·8 per cent. of organic matter. The inorganic portion consisted principally of phosphate of calcium. The high proportion of organic matter pointed to a vegetable origin. By ingestion of various vegetables they endeavoured to produce sand artificially, but failed. The presence of a chain of sand with two or three fibro-vascular bundles originating from a common point and separated by a mass of parenchyma cells suggested a remnant of banana tissue. It was then found that on eating one or two bananas intestinal sand could be found in the motions in quantities varying from a teaspoonful to a tablespoonful in the 24 hours for several days, and in cases of constipation for much longer. As a rule, the grains were found singly, but also in chains if the stool was not manipulated too much in washing. If a banana is cut transversely and exposed to the air light brown markings appear on it. Under the action of perchloride of iron they form rapidly as black strands, which under the microscope were found to be identical with the grains of sand in the fæces. These strands are the "milk tubes" of the banana and are composed of cells containing a resin suspended in a fluid rich in tannin. The action of the intestinal secretions on the resin forms the sand.

BOARDS OF GUARDIANS AND PUBLIC VACCINATORS.

FOR many years there has been much dissatisfaction amongst public vaccinators as to the conditions under which they are called upon to do their work, and although a departmental committee which sat a few years ago made certain recommendations, some of which were calculated to improve the position of the officers concerned, the Local Government Board has up to the present only acted upon such of the recommendations as were to the detriment of the public vaccinators. This is not, we think, quite the proper spirit in which a State department which depends so much upon the medical profession for its status in the country should act—that is to say, if the department desires to receive that support from the medical profession without which it would find administration a difficult matter. If there is one thing more than another to be read between the lines of the Royal Commission on the Poor-laws it is the appreciation of the services of the medical profession and a demand for its employment in greater degree than formerly. The duties of the public vaccinator are already sufficiently onerous and, with general slackness as regards the administration of the Vaccination Acts, they are steadily increasing. The most recent development is a growing disposition on the part of boards of guardians to make the post of public vaccinator dependent, as it were, upon that of district medical officer and *vice versâ*, the advantage to the guardians of this fictitious arrangement being that when a public vaccinator who is also a district medical officer resigns his post as public vaccinator because of the smallness of the fees and the difficulties of the position his appointment as district medical officer is also terminated. And conversely, when a district medical officer, who is also public vaccinator, relinquishes his position in the former capacity because it is not consistent with his conscience to supply medical advice and medicine for less than twopence per attendance his contract as public vaccinator is forthwith terminated Instances of this kind of treatment have recently been brought to the notice of Mr. Burns by the Association of Public Vaccinators, and he has been asked to receive a deputation upon the matter as well as upon the question of the security of tenure of public vaccinators as recommended by the departmental committee already referred to. This request for an interview has, however, been refused, and the petitioners have been told that in the opinion of the Board when the offices of public vaccinator and district medical officer are held together the remuneration of each office should be proportioned to the duty of each office, but that when an officer is required to devote his whole time to public appointments the guardians may properly have regard to the total remuneration which will accrue to him in respect to those appointments. As to the question of security of tenure, the Board states that it has no powers under the existing law to grant such security. Both these replies seem to us somewhat evasive and illogical. The appointments of district medical officer and public vaccinator are quite distinct; according to this ruling of the Board the district medical officer might be called upon to do the vaccinations for nothing, which is, of course, absurd. As to the other point, it is, we presume, common knowledge that fixity of tenure would require legislation, and the public vaccinators in wishing to discuss the matter with the President of the Local Government Board were probably anxious to induce him to introduce a Bill into Parliament giving effect to the recommendation of the departmental committee which either he himself or his predecessor in office must have appointed. The public vaccinators are greatly to be sympathised with. The departmental committee prescribed some stones and some bread. The stones have already been thrown with disastrous effect, but when the public vaccinators ask for the bread the departmental granaries are empty. The attempts which are being thus indirectly made to cut down the pay of district medical officers must be strenuously resisted, more particularly so when this fact is considered in conjunction with the circumstance that greater attention is daily required from these officers and that the cost of living and medical education is steadily rising. If the public medical service of the country is to improve in proportion with the demands made upon it by the public, that service must receive greater recognition by the State than has hitherto been the case.

THE LARYNGITIS OF MEASLES.

IN another column we publish an article by Dr. A. A. Warden, entitled "A Plea for the Use of Anti-diphtheritic Serum in the Laryngitis of Measles." Although we cannot altogether support this plea, yet the communication is of value in drawing attention to a most grave complication of measles—namely, diphtheria. Some degree of catarrhal laryngitis is so common in the course of measles that it can almost be considered a symptom of the disease rather than a complication, and therefore if Dr. Warden's suggestion were adopted—namely, "In the laryngitis of measles do not wait for a bacteriological diagnosis but at once inject antidiphtheritic serum"—this procedure would have to be carried out in nearly every case. If, however, this dictum were to be applied to every instance in which a membranous laryngitis occurs, then Dr.

Warden's suggestion might well be followed. Indeed, it is possible that this is what he intends to imply, and if such be the case we endorse his advice. The membranous laryngitis may be produced by pyogenetic cocci, but this can only be positively distinguished from diphtheritic membrane by bacteriological culture, and much valuable time would be lost in waiting for the result to be received from the laboratory. The success of the antitoxic treatment is considerably greater if it be employed at an early stage of the disease, and therefore practitioners would be taking a wise course in administering the antitoxin in cases of measles in which a membranous laryngitis makes its appearance.

NASAL CRISES IN TABES DORSALIS.

THE day is passed when tabes dorsalis was considered a disease to be limited to the posterior columns of the spinal cord. The field covered by locomotor ataxia in its manifestations has been very greatly extended, till now it is admitted there is no part of the nervous system, central or peripheral, which may not be the seat of the tabetic process. The aspects under which the disease may present itself are so variable that the clinician cannot afford to neglect any of them. In a recent number of *La Semaine Médicale* M. Klippel and M. Lhermitte have directed attention to a little known corner of the tabetic field, one which, however, concerns the general practitioner as much as the professed neurologist. They have written an instructive paper on affections of the gustatory and olfactory apparatus in tabes, and the clinical cases which they quote emphasise once again the extreme importance of recognising that the symptoms for which the patient consults his physician may be but a purely local indication of a much more widespread condition. M. Klippel and M. Lhermitte consider that the nasal crisis of the tabetic may be represented by one of three differing types—viz., sensory, spasmodic, and secretory—although this division is somewhat schematic. The disturbance, of whatever type it be, may occur in those who show a permanent defect in their olfactory sense as well as in those whose smell is normal. The common impairment found in the subject of tabes is partial or complete anosmia, with hypoæsthesia of the face and nasal mucosa, and vaso-motor or trophic changes in the olfactory mucosa itself. In the first variety of nasal crisis the patient feels a pricking sensation at the root of the nose, a disagreeable tickling in his nostrils, and then suddenly experiences a strong and unpleasant subjective odour commonly compared to that of rotten eggs. Occasionally it is associated with an equally unpleasant taste in the mouth. Amohg the many instances quoted by the authors are cited those described by Mr. Herbert Tilley[1] 14 years ago as three cases of parosmia, and the suggestion is made that they were in reality cases of tabes in which the ordinary symptoms of the condition were not present or not recognised. They do not ignore the occurrence of similar phenomena in intracranial tumours of a particular localisation, but the diagnosis presents no real difficulty. The spasmodic type of nasal crisis is characterised by attacks of sneezing; one of their patients used to notice a sensation of coolness and of pins and needles over the left half of the face and then sneezing set in; it was sometimes accompanied by flashes in front of the left eye and bilateral tinnitus. An instance is given where this form of nasal crisis proved to be the first symptom of tabes. Sometimes the crisis is succeeded by a flow of tears or of mucus from the nose; in practically every case some objective modification of facial or olfactory sensibility can be discovered. Where there are definite vaso-motor or secretory phenomena we are dealing with the third or rhinorrhœic form of nasal crisis. One of the cases concerned a patient with locomotor ataxia, whose attack always began with a series of short abrupt respirations, followed by a bout of sneezing of several minutes' duration. As soon as these spasmodic phenomena ceased, a slightly viscid reddish fluid poured from the nose, soaking a handkerchief in very little time; towards the end of the flow it became clear and much more watery. Examination of the nasal fossæ revealed no abnormality whatever, but there were changes in cutaneous, mucous, and olfactory sensibility. The differential diagnosis of these symptoms may no doubt be difficult, but the discovery of any of the classical signs of tabes is very significant, in particular any notable alteration in sensibility in the distribution of the trigeminal nerve. In one of their cases M. Klippel and M. Lhermitte have found unmistakeable histological changes in the olfactory bulbs. Of the encephalic manifestations of the tabetic process several are, of course, very well known, in particular optic atrophy. Sir William Gowers has drawn attention to the occurrence of "auditory atrophy" in the shape of constriction of the auditory field, and this latest contribution to the subject is equally suggestive and likely to repay research.

[1] THE LANCET, Oct. 9th, 1895, p. 907.

AT a meeting of the Royal Society on May 6th the secretary announced that Colonel Sir David Bruce, who is in charge of the Sleeping Sickness Commission at present in Uganda, had cabled to the Society on April 3rd to report that the Commission had confirmed Kleine's observations on the period during which the tsetse fly was capable of transmitting a trypanosome infection. A letter had been received by the Society on April 30th from Sir David Bruce, dated Mpumu Chagwe, Uganda, April 3rd, confirming the telegram, and stating that the Commission had "repeated Dr. Kleine's experiments with *Trypanosoma gambiense* and *Glossina palpalis*, also with a trypanosome of the dimorphon type and the same Tsetse-flies, and found the flies infective after 16, 19, and 22 days."

THE EARLY RECOGNITION OF UTERINE CANCER.

AT the annual meeting of the British Medical Association at Exeter in 1907 the Section of Obstetrics and Gynæcology adopted a resolution requesting the Council of the Association to appoint a committee to consider the best means of disseminating knowledge of the importance of the early recognition of uterine cancer. That committee presented a report which was considered, and generally approved, by the same section of the annual meeting of the British Medical Association in Sheffield in 1908. At its meeting on April 28th, 1909, the Council of the British Medical Association approved for publication the appeals to medical practitioners, and to midwives and nurses, and directed that they should be communicated to British and colonial medical and nursing journals. We have consequently received from the Editor of the *British Medical Journal* the appended important document addressed in its main bulk to all medical practitioners, but with a brief and earnest note to midwives and nurses appended:—

A.

AN APPEAL TO MEDICAL PRACTITIONERS TO PROMOTE THE EARLIER RECOGNITION OF UTERINE CANCER.

The attention of all medical practitioners is directed to the necessity of emphasising the curability by operation of uterine cancer in its early stages.

The adoption of a more extensive operation by the abdominal route has made it possible to deal successfully with cases hitherto regarded as inoperable, and to remove more of the pelvic cellular tissue as well as a portion of the vaginal walls; it is in these situations that recurrence is prone to develop.

Many patients now present themselves for examination and treatment when the disease is considerably advanced, and it is hoped that by a widespread and accurate knowlege of the early signs and symptoms the number of such patients will gradually diminish.

Special attention is directed to the following :—

1. Cancer of the uterus is at first a local disease.
2. Cancer of the uterus is often a curable disease.
3. Operation is the only satisfactory method of treatment.
4. The earlier the disease is recognised the more hopeful are the prospects of treatment.
5. The risk of operation in early cases is slight and the chance of permanent cure is good.
6. The recognition of early cancer is not usually difficult, and the disease should not be overlooked by the medical attendant.
7. A medical practitioner who fails to make a physical examination of a patient exhibiting any of the symptoms of uterine cancer incurs grave responsibility.
8. Treatment of symptoms without a physical examination is unjustifiable.
9. Early cancerous ulcers should not be treated with caustic; their appearance becomes masked, and valuable time is lost.
10. It is an error to wait and observe in order to arrive at a diagnosis.
11. In doubtful cases a diagnosis must and can be made in a few days.
12. To examine, to diagnose, and then to treat, should be the rule in all cases.

Symptomatology.

Uterine cancer is at first a painless disease which does not affect the general nutrition.

The early symptoms of cancer are: Irregular bleeding of any description, even if there be only traces; bleeding post coitum; and watery, blood-tinged discharge. There may be no loss of strength or wasting, nor any condition to alarm the patient. Pain, wasting, profuse bleeding, and foul discharge indicate advanced disease.

As the majority of cases occur between the fortieth and fiftieth year the symptoms are too often regarded by the patient as due to "change of life." The medical attendant should not accept this assumption until he is satisfied that cancer does not exist.

Bleeding, however slight, occurring after the menopause, should give rise to suspicion that cancer is present.

Examination.

If a patient with any of the above symptoms comes for advice, a careful visual and bimanual examination must be made before any treatment is recommended.

Should a patient refuse to be examined—and this is exceptional when the situation is explained—the medical attendant should decline any further responsibility, and no treatment should be advised. The examination should be made, even if bleeding is present, as valuable time may be lost by postponement until the hæmorrhage has ceased.

It is most important to observe rigid aseptic precautions in all manipulations.

In the examination, the condition of the vaginal portion of the cervix and of the cervical canal should be carefully noted.

In the early stages new growth may be found on the surface of the vaginal portion of the cervix, in the lining of the cervical canal, or in the substance of the cervix. Any prominence on the surface of the vaginal portion or any ulceration—i.e., a definite loss of substance—should at once arouse suspicion. A nodule or nodules, hard, inelastic, or irregular in outline, felt in the substance of the cervix suggest the presence of cancer. If the whole cervix be affected the relative hardness as compared with the soft elastic body is pronounced.

The detection of high-lying cervical cancers and cancers of the body of the uterus is only possible after curettage or digital exploration.

The signs common to the early stages of cancer of the cervix uteri are:—

(1) The definite occurrence of new growth on the surface of the vaginal portion of the cervix, in the lining of the cervical canal, or in the substance of the cervix;

(2) Friability;

(3) Bleeding on manipulation.

(1) The definite occurrence of new growth on the portio vaginalis or in the cervical canal cannot fail to arouse suspicion. When, however, thickening of one lip or a portion of one lip of the cervix exists, the nature of the growth is difficult to determine if the mucous covering be still intact. It is then necessary to remove a portion of the affected tissue and examine it under the microscope.

(2) Friability is a sign of the greatest importance, and may be tested by the finger-nail, curette, uterine sound, or an ordinary long probe. Degrees of friability exist in early cases, depending upon the amount of interstitial tissue contained in the growth.

(3) The occurrence of free bleeding after the slightest manipulation is, when combined with friability, a valuable diagnostic aid.

Forms of Uterine Cancer.

Vaginal portion of the cervix.

(1) *Infiltrating type.*—In this type, one lip, or a portion thereof, or even the entire vaginal portion of the cervix, is infiltrated with cancerous growth. Ulceration occurs early from the surface inwards, or necrosis may begin in the centre, and opening on the surface, lead to the formation of a deep ulcer, with undermined edges. The growth is somewhat hard in consistence, but is still friable if tested with the probe, curette, or finger nail.

(2) *Papillomatous or polypoid type.*—This includes the so-called cauliflower excrescence, and is characterised by the growth from the margin of the os externum of a rounded or flattened tumour, varying in size, which may or may not have a definite stalk. It has a papillary surface, bleeds readily, and is very friable. More rarely it resembles a bunch of soft papillomata. Portions of the growth, pale red or greyish yellow in colour, are easily detachable on examination.

(3) *Superficial flattened type.*—This is characterised by a flattened growth on the vaginal portion which tends to spread over its surface. It is prone to early ulceration and is frequently seen clinically as an ulcer. The lip or portion affected is thickened. The ulcer has a sharply defined, raised edge, indented at places, yellowish grey, finely granular surface, a moderate amount of loss of substance, and an infiltrated base. It bleeds readily on touch and the amount of hæmorrhage is entirely out of proportion to the amount of injury inflicted. The finger-nail can detach small pieces from its surface.

Cervical Canal.

(1) *Superficial type.*—The inner surface of the cervical canal is lined by an irregular papillary growth which at first attacks the substance of the cervix superficially. As the growth increases portions of it may protrude through the external orifice of the cervical canal. When ulceration occurs the superficial portion of the growth is shed, with consequent hollowing out of the cervical canal, whilst the remainder of the periphery of the cervix is more or less thickened by infiltration. Where the external os uteri is narrow the process may be hidden, or patency of the os uteri may be produced by destruction of its margin, whilst in uteri where the os is already wide a crater-like cavity is formed.

(2) *Infiltrating type.*—The cancerous infiltration proceeds from the mucous membrane deep into the tissues of the cervix, and thus the whole cervix becomes thickened and enlarged, or the enlargement and infiltration may be limited to one or more portions of the cervical walls. Necrosis may commence on the mucous surface, or in the centre of the infiltrated area and may lead to extensive destruction of the cervical tissues.

Probably the majority of cancer cases which are overlooked are examples of disease affecting the lining of the cervical canal or the tissues of the wall of the cervix.

Cancer beginning in the cervical canal is not difficult to detect where the os uteri is dilated as in many multiparæ. The finger passed into the cervical canal feels irregular elevations or nodules from which portions may be removed. Free hæmorrhage follows this manipulation. Difficulty arises

where the os uteri is not dilated and the disease is hidden. A sound carefully passed into the cervical canal may give the impression of impinging on an irregular nodular surface, or friable tissue may be removed by the curette. Free hæmorrhage following such manipulations is a suspicious sign. Thickening and hardening of the cervix may be detected by a rectal examination, which is most helpful in detecting cancerous nodules in the cervical walls and should always be made in such cases.

Body of the uterus.

If the vaginal portion of the cervix, the cervical canal, and the cervical walls have been proved to be free from disease, attention must be directed to the body of the uterus. The uterus may not be enlarged, although a cancerous growth exists in its interior. Usually, however, there is some increase in size, which in advanced cases may be considerable.

Microscopical Investigation.

In doubtful cases, if there be a suspicious hard nodule, or erosion, or ulcer on the external os uteri, a piece including a boundary of healthy tissue should be excised.

The vulva and vagina having been thoroughly cleansed, the posterior vaginal wall should be retracted by means of a speculum, and the cervix pulled slightly downwards with a volsellum. A wedge-shaped piece, the size of a pea or bean, including *a margin of healthy tissue* should be excised with a sharp knife.

The bleeding which follows this little operation should be stilled by the insertion of one or two sutures, or by firm tamponade with a strip of gauze. An anæsthetic is not essential. The patient should be kept in bed for 24 hours.

The tissue removed should be transferred to a small stoppered bottle filled with absolute alcohol or methylated spirit, and forwarded without delay to an expert in uterine pathology.

Where the cancer originates in the body of the uterus or in the cervical canal it is frequently possible by using the curette to obtain a sufficient amount of tissue for examination without the aid of anæsthetics. If this cannot be done it may be necessary under an anæsthetic to curette the whole interior of the uterus and cervix, special attention being paid to the region of the tubal orifices.[1] All fragments should be collected, including those which may have been washed out. The douche, if employed, should consist of sterilised water or a weak solution of corrosive sublimate (1 in 10,000), as carbolic acid and lysol interfere with the staining of the cells.

The fragments should be transferred to a stoppered bottle filled with absolute alcohol or methylated spirit.

If the expert's report is favourable the patient will be reassured, if unfavourable immediate operation is imperative.

The Operation.

The question of operation is best decided by the operator, who may require to examine under anæsthesia.

To Recapitulate.

(1) Attend to all symptoms suspicious of cancer, and instruct the patient on their importance;
(2) Examine immediately all cases of bleeding or abnormal discharge;
(3) Make a definite diagnosis and do not wait for the disease to develop;
(4) Urge immediate operation if the diagnosis is established.

The practitioner who diagnoses cancer in an early stage, when operation offers a probability of cure, renders a service to his patient as great as that rendered by the operator.

B.

AN APPEAL TO MIDWIVES AND NURSES IN ORDER TO PROMOTE THE EARLY RECOGNITION OF CANCER IN THE WOMB.

Cancer of the womb is a very common and fatal disease in women, but *it can be cured by operation when it is recognised early.* A woman sometimes tells a nurse or midwife her ailments before she speaks to a doctor, and the nurse or midwife has then an opportunity of aiding our crusade against this terrible disease.

Cancer may occur at any age, and in a woman who looks quite well and who may have no pain, no wasting, no foul discharge, and no profuse bleeding.

To wait for pain, wasting, foul discharge, or profuse bleeding is to throw away the chance of successful treatment.

The early signs of cancer of the womb are—

1. *Bleeding*, which occurs after the change of life.
2. *Bleeding* after sexual intercourse, or after a vaginal douche.
3. *Bleeding*, slight or abundant, even in young women, if occurring between the usual monthly periods, and especially when accompanied by a bad-smelling or watery blood-tinged discharge.
4. *Thin watery discharge* occurring at any age.

The nurse or midwife who is told by a patient that she has any of these symptoms should insist upon her seeing a medical practitioner in order that an examination may be made without delay. By doing so she will often help to save a valuable life, and will bring credit to herself and to her calling.

[1] Special care should be taken in using the curette as the cancerous uterus is easily perforated.

THE ROYAL COMMISSION ON THE POOR-LAWS AND RELIEF OF DISTRESS: REPORT ON IRELAND.

THE issue of the report of the Poor-law Commission dealing with Ireland has been mentioned in THE LANCET[1] in an annotation which explained the composition of the Commission and of the groups signing the Report and the Minority Report. Neither document is of as voluminous a character as those issued with regard to England and Wales, but the Majority Report, which is largely historical, gives as the reason for its comparative brevity, that it adopts in matters of detail a large number of recommendations made by the recent Vice-regal Commission on Poor-law Reform in Ireland as well as evidence laid before that body. The report of the Minority comprises only three pages, and though expressing its dissent in forcible terms from the views of the Majority, it impresses the reader as being of a perfunctory character, and we are strengthened in that opinion after perusing the note added by the Bishop of Ross and Sir Henry Robinson. These gentlemen, appointed specially to represent Ireland owing to their life-long knowledge and experience of the country, protest against the machinery for relief proposed by the Minority as unlikely to commend itself in Ireland so as to become workable, and resent certain criticism by the Minority imputing haste and ignorance of Irish conditions to the Majority. This criticism, in their view, "comes somewhat badly when accompanied by an alternative scheme prepared by four members of the Commission, two of whom did not visit Ireland at all, while the time spent in the country by the only member who accompanied the Commissioners on their visits was even shorter than that occupied by Sir George Nicholls's visit, which, on account of its brevity, has called forth such a severe condemnation from the Minority." The Majority also at the end of their report have criticised the criticism of their four colleagues and have characterised it as "neither fair nor accurate." All of which makes us regret very deeply that the Commissioners in this very important work were unable, in spite of the great similarity of their views in many directions, to come to common conclusions.

With regard to the question of how far the signature of a commissioner should carry weight without a personal acquaintance with the country forming the subject of inquiry, we note that Miss Octavia Hill is careful to append a note to her signature to the effect that she did not visit Ireland and that consequently she does not feel able to judge of the expediency of those parts of the report which differ from the recommendations made for England, and that Dr. A. H. Downes candidly states that he feels his acquaintance with Irish affairs to be insufficient to warrant his signing the report. We call special attention to the point thus raised by members of the Commission as to the necessity for acquaintance with

[1] THE LANCET, May 8th, p. 1334.

Ireland, with the conduct of local affairs in Ireland, and with the section of the Irish people concerned as the potential subject of Poor-law relief, because the conditions of life in Ireland, the character of its people, their attitude towards religion, their history and their traditions are so essentially different from anything to be found in England and Wales that full weight must be given to the views of the expert in Irish affairs, even when his advice runs counter to our experience elsewhere and to principles accepted for general application in the rest of the United Kingdom.

Essentially and with regard to points of detail where similarity is obtainable the Majority recommend for Ireland what they have already advised for England and Wales. In matters of detail they have to a large extent adopted suggestions made by the Viceregal Commission to which we have referred, and it is a matter for congratulation that they have been able to do so. We note, however, that they have departed from those recommendations in two matters of which one is of vital interest to the medical profession in Ireland, and the other relates to an essentially Irish condition affecting the granting of out-door relief. We shall refer to the former again, but will first summarise the Report of the Majority generally.

Poor-law administration in Ireland has been a failure, mainly due to the ignoring of the peculiar conditions of the country by those who devised it, and in admittedly difficult circumstances the loss of life by hunger and disease has at times been appalling. In 12 years (1845–1857) famine and its consequences reduced by death and emigration the total population from 8,295,061 to 5,919,454. These are staggering figures, and we naturally endeavour to realise what part the medical profession were allowed to play in devising measures to stay the tide of starvation and disease. The attitude of the Poor-law towards medical aid for the pauper in those early days may be gathered to a small extent from the Commission's Report, par. 149, where they say:—

> The style of building adopted for workhouses was of the cheapest description compatible with durability, all mere decoration being studiously excluded. The Poor-law Commissioners in their annual report for 1842 state that if they had yielded to the prevalent wish of many boards of guardians "the workhouses would have been finished and fitted up with all the appurtenances of a hospital or infirmary—a desire which it will be our duty to resist."

We turn, however, from the picture thus suggested to the recommendations made by the Poor-law Commissioners who have just completed their inquiry. As in the case of England and Wales, they would abolish boards of guardians and general workhouses, replacing them with Public Assistance Authorities acting in the wider areas of the county or county borough and housing those destitute persons in need of such aid in specialised institutions suited for different classes of inmates. In Ireland also it is recommended that the Public Assistance Authorities should administer assistance locally through the agency of Public Assistance Committees, and make use of Voluntary Aid Councils and Committees where such can be formed. The appointment of the Public Assistance Authority to act as a statutory committee of the county or borough council would be, as recommended for England and Wales, partly from the council if so desired, partly from outside it. The Public Assistance Committees would be chosen by the Authority from those experienced in the administration of public assistance or cognate work, and would include a proportion of members nominated by urban and rural district councils and by Voluntary Aid Committees.

With regard to able-bodied inmates of workhouses and vagrants, to children, to the aged, to lunatics, to patients suffering from phthisis, and to most of the other matters of detail dealt with by the Viceregal Commission, the present Commissioners adopt the recommendations of that body and make suggestions as to carrying them into effect. As has been said above, they do not follow it when dealing with medical relief, for the administration of which they recommend:—

> That the present medical service be a county service under the control of the Public Assistance Authority and that the areas of the districts, where possible, be enlarged in view of present population.
>
> That county infirmaries, workhouse, and other rate-aided hospitals be coördinated and that medical relief generally be under the management of the Public Assistance Authority, and that a county ambulance system be established.
>
> That a county medical superintendent officer of health be appointed who shall also discharge the duties of a bacteriologist.
>
> That Public Assistance Authorities have power to appoint nurses for nursing in the homes of the necessitous, in the same way as boards of guardians at present appoint midwives.

The Viceregal Commission in its report and the medical member of the Commission in a memorandum recommended the conversion of the county infirmary, workhouse, and dispensary medical service into a State medical service, paid out of State funds. Members of such a service would form a kind of medical civil service, its members being admitted to it by State examiners, and looking to the State for salaries during their active career and for pensions afterwards. They would constitute, in the words of the Viceregal Commission's report, "a State Medical Service, with local bodies to assist in administration of relief to the sick." With regard to the report of the Viceregal Commission the present Commission had before it a letter from the Irish committee of the British Medical Association, which said:—

> The Irish committee of the British Medical Association, having considered very fully the report, desire to express their conviction that it is most desirable that the Royal Commission on the Poor-law should accept and approve this report as a satisfactory solution of the problem so far as the report goes.

We note the expression, "so far as the report goes," and there will be no doubt ample opportunity for ascertaining how far the medical profession in Ireland, and the particular branch of it directly affected, are inclined to accept county service under the proposed Public Assistance Authorities as an equivalent for the State service in coöperation with guardians contemplated by the Viceregal Commission. In the Report of the Poor-law Commission for England and Wales, combined with that for Ireland, they can ascertain the intentions of the Commissioners responsible for them. By the light of their personal knowledge of Ireland and of Irish local government they can construct the Public Assistance Authorities and Public Assistance Committees, with a reasonable probability of being able to forecast their leading characteristics. It is for them to say whether the defects of their present service "will be minimised, if not completely corrected, by the county system" proposed by the present Commissioners, who are admittedly in the main an English body and who naturally were unwilling to create unnecessary differences between the fulfilment of similar functions in two parts of the same kingdom. The Commissioners regard the larger area and the more important county or county borough authority as supplying the wider field and more independent supervision and appreciation necessary to secure promotion and other advantages for those who fairly earn them. The medical profession in Ireland may differ from this view and will be entitled to express their opinions with regard to it, but if they are not prepared to accept the Commissioners' recommendations with acquiescence and if they prefer those of the Viceregal Commission, it will not, we may be assured, be merely because under one scheme they see the opportunity for securing greater advantage to themselves than under the other. The medical profession in Ireland, as in England, is prepared to welcome the system which promises the most efficient performance of those duties which will be theirs whatever system of medical administration is adopted. They will have to attend the sick and to stay the spread of disease, whether the Public Assistance Authority or the Government is their official head; and if they evince a marked preference for the one over the other it will be because they believe that they are thereby advocating the wiser course in the public interest.

We note with regret that the Commissioners in their report devote several paragraphs to the "Grievances of Irish Dispensary Medical Officers," and review those grievances with want of sympathy expressed in terms which seem to us illogical. Speaking of corresponding officers in England and Scotland, they say that the witnesses there "laid before us various grievances affecting the medical profession, but the questions of salaries and fees from public funds were not generally emphasised." It may be so, but it by no means follows that such witnesses could have supplied no evidence upon the subject if desired, or that their circumstances and experience were precisely similar if they failed to do so when interrogated. We do not consider that the following paragraph in the report is conclusive upon the subject of which it treats:—

> The average salaries and emoluments from the public funds received by Poor-law medical officers in England and Scotland are substantially less than the average amounts similarly received by the corresponding officers in Ireland, and the salaries paid to a not inconsiderable number of medical officers in Great Britain are only a fraction of the lowest salary paid in Ireland.

Such a comparison seems to us to tend to the denial of justice to Irish members of the medical profession because medical officers elsewhere are disgracefully underpaid. We observe that in their expression of opinion

on this question of salaries the Commissioners are apparently throwing overboard the memorandum of their medical Commissioner on the subject, and that they treat an expression of his opinion that highly qualified medical men are lost to dispensary service in Ireland on account of its insufficient emoluments, as if this were a matter of but trivial importance to the public service and to the patients concerned. We note, however, that the Commissioners appear to recommend the fixing of salaries on a uniform principle and the provision of substitutes during a fixed holiday. They also say:

> The appointment and control of surgeons and physicians in the county infirmary, fever hospitals, district and cottage hospitals, and of the dispensary medical officers, by the Public Assistance Authority will unify the medical service of the county. The appointment by the same authority of a county medical superintendent of health, who will supervise the district medical officers of health, will lead to close coöperation between the medical and public health services.

In giving a brief outline of the recommendations of the Majority of the Commission we have omitted detailed reference to general questions of poor-relief. We may mention, however, that with regard to children, extension of boarding-out is recommended with suitable inspection, and that the policy recommended for England and Wales is otherwise adhered to. We have also refrained from citing what we may call the narrative portions of the report, so far as they relate to workhouse conditions, although these may be perused with considerable interest. They appear to prove that in Ireland institutional conditions, varying under different degrees of good or bad management, are frequently very bad indeed. They may be no worse than those to which the inmates have been accustomed in their own homes, but in Ireland, even more than with us, it is desirable that this standard should often be disregarded. Public Assistance Authorities and Committees and Voluntary Aid Committees will have before them, if and when they are instituted, a prospect of useful and very arduous work if they desire to perform their functions effectively, and in Ireland, as in England, new conditions and higher standards may be found to impose considerable strain upon those who voluntarily devote themselves to public service.

The Minority Report, occupying three pages only, bases its disapproval of the Majority Report principally on the non-elective character of the Public Assistance Authorities and Committees, combined with the influence assigned to Voluntary Aid Committees, and upon features in the report which, in the opinion of the signatories, tend to perpetuate Poor-law characteristics in distribution of relief. They also refer to the departures of the Commission from the recommendation of the Viceregal Commission as "momentous" and as not justified either by the limited time at its disposal for the investigation of Irish conditions or by the evidence before it. They deprecate any hasty legislation on the lines of the report. With regard to medical matters, they express dissent from the recommendations of the Majority, and claim the support of the medical member of the Irish Local Government Board for their views, but do not refer to the proposal with regard to a State medical service advocated by the Viceregal Commission, and their criticism is not quite easy to follow owing to the small space which they have been able to devote to it. In conclusion they say: "Ireland even more than England or Scotland appears to us to be ready for the policy of 'break up the Poor-law and abolish the workhouse.' In our judgment any attempt to set up a new Poor-law and a new Poor-law authority under whatever name would be a repetition of the mistake of 1838. We have already indicated tentatively in our Report on England and Wales the way in which the various proposals with regard to the treatment of the infants, the children, the sick, the mentally defective, the infirm, the aged, and the unemployed able-bodied respectively, to which our investigations have led us, might be made applicable to Ireland. To these proposals and tentative suggestions we need, therefore, now do no more than refer."

CONVALESCENT HOMES ASSOCIATION.—The fourth annual meeting of this association will be held in the committee room at 32, Sackville-street, London, W., on May 20th, at 4.30 P.M. Sir William S. Church, Bart., K.C.B., will take the chair. The report for the year 1908 will be submitted and the object and work of the association will be explained.

SANITATION IN INDIA.

IV.[1]—JAILS.

Bombay.

THE report for the Bombay Jail Department for the year 1907 is contributed by Mr. H. N. Alexander, the Inspector-General of Prisons, Bombay Presidency. We are first presented with the usual statistical results, from which it is seen that the total population of all classes of prisoners confined in the prisons, subsidiary jails, lock-ups, and civil jails during the year 1907 has been 87,250, against 92,408 in 1906, the daily average population having been 8854, showing a decrease of 503 over the figures of the latter year. Whilst there is this general diminution, certain jails show a marked increase, such as Karachi, Hyderabad, and Sukkur, chiefly due to the great activity shown by the police in prosecuting bad characters under Chapter VIII. of the Criminal Procedure Code.

With respect to the disposal of convicts, we see that there was considerable overcrowding in Sind prisons during certain portions of the year, and this resulted in an appreciable increase in punishments. Thus at the Central Prison, Hyderabad, the increase in punishments did not begin to show itself until the prison became uncomfortably overcrowded, and then every class of offence rose rapidly. Assaults became somewhat frequent and the superintendent found considerable trouble in exacting tasks, and many penalties for these classes of offences had to be inflicted. The effect of this overcrowding was doubtless aggravated by the natural propensities of the Sindhi prisoners. The latter always give a good deal of trouble when they first arrive at a prison in the Presidency proper. Lazy by nature, they try every dodge, and take much punishment before they settle down to work; thus, of the 13 floggings for violent assaults recorded, ten were inflicted on Sindhi prisoners.

Coming now to the vital statistics for the Bombay jails, the total number of deaths for 1907 was 180, or a ratio of deaths per 1000 of 20·3, as contrasted with 204 and 21·8 per 1000 for 1906. As regards the chief diseases responsible for the sickness and mortality, dysentery, respiratory disorders, and malaria were the affections not showing a decline over the corresponding numbers of the previous year. Pneumonia was rather prevalent in some of the jails; thus in Sind gang there were 54 attacks, with 13 deaths. Precautionary measures here were at once adopted, which resulted in the mitigation of the severity of the disease, but not in its eradication. The pneumonia here was doubtless due in some measure to the great and rapid atmospherical changes. Again, in the Hyderabad Central Prison, out of 33 deaths 18 were due to pneumonia. The medical officer writes: "There was overcrowding from May to the end of the year, and for some months cases of respiratory diseases with fevers were very numerous. Most of them were mild, but a few of them went on to pneumonia, of which disease there were 18 deaths during the year." In the Dhulia Prison the Inspector-General remarks on the part played by an indifferent water-supply on the amount of sickness. All the water is boiled, but it is not at all certain that the prisoners only drink the water that had been boiled. As the municipality is now constructing filter beds, an improvement in the water-supply may be expected in the future. There were no cases of cholera during 1907 in the Bombay jails. The following measures were adopted during the year under report with a view to improve the health of the prisoners. To relieve overcrowding in barracks tents were erected; the prisoners were given an allowance of wheat and rice in lieu of *báju* and *fowári*; weakly prisoners and convalescents had extra rations; working prisoners in the Deccan gang had two ounces of extra flour; quinine was issued as a prophylactic; potatoes and onions were given in place of green vegetables; extra warm clothing was issued when necessary; and lastly, Professor Haffkine's prophylactic serum was inoculated. With regard to the latter precaution there were eight cases of plague, with three deaths.

The two new prisons at Sukkur and Karachi are likely to prove healthy. At Sukkur Captain Murison, I.M.S., the

[1] Nos. I., II., and III. were published in THE LANCET of April 10th (p. 1067), and 24th (p. 1199), and May 1st, 1909 (p. 1269), respectively.

superintendent, remarks on the total absence of cases of heat-stroke during the year, as contrasted with the admission of nine cases during 1906. This jail has proved decidedly more healthy than that at Shikarpur, which is now disused.

Central Provinces.

Major W. B. Lane, I.M.S., the Inspector-General of Prisons, furnishes the report for those of the Central Provinces. Here, again, it is satisfactory to find that the number of prisoners, which has been steadily decreasing since the year 1903, continues to show a further fall in 1907, and this decrease also embraces that in the number of juvenile prisoners under 16 years of age. But although there was this general decrease, it was found that there was an increase in the number of persons admitted who were in Government employ—namely, from 196 in 1906 to 235 in 1907. Another point observable is the rise in the number of short sentences not exceeding three months. It is very difficult to make life penal for those undergoing very short sentences; they cannot be taught any trade, cells are not available for the grinding of grain, and they are nearly always put to work in the garden, which is not penal; having once been in jail the boundary line is passed and imprisonment becomes no deterrent after such an experience. There was a great increase in this respect in the Raipur central jail, there being 223 admissions in 1907, as against 142 in 1906. Major Lane urges that the punishment in these cases should be more real, and suggests certain lines on which this could be effected.

An important measure for the separation of habitual prisoners sentenced to six months and over has been sanctioned; under this sanction these prisoners are now to be transferred to central jails. Hitherto it has been the practice to transfer long-term prisoners from the central jail to the district jail nearest their homes two months before their release. This period was unnecessarily long, and gave time for habitual offenders to contaminate the casual prisoners in the district jails amongst whom they necessarily were placed. Major Lane has reduced this period and now all such prisoners are transferred not more than a fortnight before their release, and are also as far as possible separated from the other casual offenders in the district jail. Thus contact between hardened habitual criminals and the comparatively harmless class of casual offender will be in a great degree prevented. But not only is the future of the casual offenders looked after, but the Inspector-General has interested himself in that of the habitual. This problem of providing for habitual prisoners after their release is a difficult one. In Nagpur several such prisoners were given employment in the secretarial press. The results, however, so far are not encouraging, only one man out of the six so employed having remained in this employment, but, as the Inspector-General remarks, this "is something gained."

Coming now to the vital statistics of the jails for the Central Provinces, the ratio per 1000 of daily average sick showed a marked fall, but there was a large rise in the death-rate, which rose from 13 to 18 per 1000 in respect of convicts, and from 20 to 29 in respect of under trial prisoners. However, with respect to this, it must be remembered that this death-rate of the previous year was exceptionally low, and less than that returned by the jails of any other province, whilst the death-rate of 18 per 1000 in 1907 is still quite low, and compares favourably with that of any place or any class of people in India. Out of 63 deaths 19 occurred in Raipur alone, dysentery accounting for seven or half the total number of deaths from this cause in the jails of the whole province. The occurrence of the dysentery does not receive any explanation as to whether it was due to the exceptionally bad health of the admitted prisoners that was present, or whether it was due to any cause or defect in the conditions of sanitation or dieting in the jail. In the Amraoti central jail, again, five out of the seven deaths reported were due to dysentery. With respect to this disease as it presented itself as a whole in the jails, we see there was a fall in the admissions from 119 in 1906 to 103 in 1907, although the number of deaths rose from seven to 14. There was only one case of plague, and no case of cholera. Malarial fever showed a decrease of 146 cases from 641 cases in 1906 to 495 in 1907. Quinine was issued as a prophylactic at some jails, but the Inspector-General can draw no deductions as to its efficacy or otherwise. Captain P. Prentice, of the Balaghat district, thinks with regard to prevention he has reduced the number of cases by rubbing the exposed parts of prisoners' bodies with a mixture of tilli and kerosene oil. Incidentally with respect to the admissions of malaria, Captain W. H. Kenrick, in his report of the Sangor jail, made the important observation that quite 50 per cent. of the cases said to be malaria were really not malaria at all, but a form of spirillosis caused by a spirochæte transmitted most probably by the bite of a tick or bed-bug. He considers that the majority of cases of malaria occurring in jails are really cases of this nature and not malaria, quinine having no effect upon them; they recover just as soon untreated, whereas the genuine cases of malaria are very few. Microscopic examination is necessary to distinguish the two diseases. In concluding his interesting report Major Lane gives well-deserved commendation to, and mentions with praise the names of, several of the jail superintendents. We are glad to see this, as such mention always stimulates to good work.

Bengal.

Lieutenant-Colonel W. J. Buchanan, the Inspector-General of Prisons, Bengal, submits the report for this province. We are extremely glad to note that the wise proposition of this energetic officer with respect to the separate and special treatment of juvenile prisoners has been definitely agreed upon by the Government of Bengal. Last year Colonel Buchanan strongly recommended a scheme for making better provision for this separate and special treatment. He rightly was of strong opinion that any attempt to reform prisoners could only expect a successful result if such prisoners were obtained young, and when so obtained were treated separately from the adult prisoners, for if at their impressionable age they came into contact with the latter, they would be apt to deteriorate rapidly and to learn all the worst tricks and vices of adult criminals. He proposed, therefore, that a juvenile jail in Calcutta should be established, and asked that the premises now used as the Alipore Reformatory School should be restored to the jail department to which they formerly belonged. In commenting last year on this proposition we held "that this common-sense reform was eminently desirable, and trusted that the Government would fall in with the wise and humane views of this able administrator." The Inspector-General is to be congratulated on the fact that the Government of Bengal has acceded to his views. The actual transfer had not yet taken place at the time of the writing of his report, but it had been definitely agreed upon.

Respecting the statistics for admission for 1907, the number admitted and discharged, and the daily average number of prisoners, have decreased as compared with the previous year. The various statements in the report detail the number of convicted prisoners and their disposal during the year, the number of transportation convicts, the particulars of the religion, age, state of education, and previous occupation of the convicts, also the number of female convicts, and the nature and length of sentence of convicts admitted during the year amongst other particulars. A wise proceeding—namely, that of the removal daily or more than once a week of convicted prisoners from certain subsidiary jails to the district jails at headquarters, has been sanctioned. This, although throwing much additional work on the police department in providing escorts, has been of great use to this department in keeping down the numbers in the subsidiary jails, many of which, in spite of this more frequent removal of convicts, are still often found to be inadequate to accommodate the number of prisoners awaiting or under trial. Considerable sums of money have also been expended on the reconstruction and enlargement of the subsidiary jails in many districts, as many of the latter built 30 or 40 years ago were found of quite inadequate accommodation, in spite of the above system of immediately transferring convicted prisoners to the district jail at headquarters.

Colonel Buchanan last year urgently proposed an increase in the pay of all warders, a slight increase in the total number of warders in each jail, an improvement in the pay and status of the reserve head warders in central and first- and second-class district jails, a standard rate of pay for all warders with the local allowance in each circle, and the extension of privileges given to the police and Salt Department officers. These recommendations are now under the consideration of Government, and we trust, with Colonel

Buchanan, that a favourable reply may be given to his beneficent recommendations, for the warders, who are drawn from the same class as the police, keenly feel that they by no means receive equal treatment with them, and hence there is found to be a yearly increasing difficulty in recruiting a good class of men, together with an increased number of retirements and desertions. Colonel Buchanan rightly holds the most pressing jail reform to lie in the necessity of "not only making provision for increased pay, but also for extending to this hard-worked body of men similar privileges as regards pension and sick leave to those enjoyed by the police department." Surely a wiser recommendation was never made.

Several other points are noticed in this excellent report before we come to the facts concerning the sickness and mortality in the jails. For the year 1907 the daily average sick was 523·80, as against 576·44 in 1906, or a ratio per 1000 of 34·2, as contrasted with 36·5, the mortality-rate being respectively 17·5 and 23·7 per 1000. With respect to the chief diseases encountered, only five cases of cholera with three deaths occurred, against 21 and 15 respectively in 1906. Dysentery likewise showed a decrease, there having been 1984 admissions with 43 deaths, compared with 2738 and 83 in 1906. The death-rate per 1000 from this disease was 3·0, against 5·9 in the previous year. Bowel complaints always figure very largely in the sick-rate and mortality of prisoners in jails, but the rate for 1907 has marvellously decreased in the Bengal jails. Thus, in the five years 1875–79 the death-rate was 26 per 1000; this year it is far lower, only 3·2. The deaths this year have been about half the previous lowest record. This low death-rate has been almost universal in the Province.

Captain W. C. H. Forster, I.M.S., has instituted a special inquiry into the causation of jail dysentery, and has shown in his interim report that the dysentery is most commonly due to the bacillus of Shiga, amœbæ having been found very seldom in primary attacks, but more frequently in chronic cases. He shows it not to be spread by dust, water, food-supply, suctorial insects, or soil infection, nor does the infection, as far as could be traced, cling to wards or buildings. All the available evidence points to the spread by *case-to-case infection and by convalescents as bacilli carriers.* The extra-corporeal stages of dysentery were found to be extremely short. The sun's rays killed the bacillus in two hours, whilst bacilli died within three days in blankets stowed away in almirahs. The greatest incidence occurred one month after the rainfall curve; the minimum incidence corresponded with the dry hot months. Most of the cases occurred in recent arrivals from outside, or among convalescent gangs. Cases of dysentery due to Shiga's bacillus were found liable to assume a chronic or relapsing course, whilst convalescents were very dangerous as carriers and spreaders of the disease. As regards prophylaxis, therefore, we must exercise due attention to sanitation, the early admission and treatment of cases, and especially the detention in hospital till they become "absolutely well for at least a fortnight," together with the segregation of convalescents for at least a month after their discharge from hospital. Captain Forster also recommends the preliminary treatment of all new-comers during their necessary detention in the quarantine yards by salines and perchloride of mercury, inasmuch as a large proportion of jail cases occur amongst newly admitted prisoners. This preliminary treatment has proved very satisfactory in the Midnapore Jail. This hard-working officer has also introduced, and largely used, a method of vaccine-therapy which has been very successful, several most remarkable recoveries having been personally noted by the Inspector-General, who strongly advocates its use in other jails. Midnapore Jail is notorious for its unhealthiness, so that the efforts of Captain Forster are highly to be commended and reflect the greatest credit on this officer.

Lastly, a few words may be said on the subject of the state of malaria in Bengal. There were 4928 cases, with 16 deaths, in 1907, as compared with 4853, and 18 in 1906. The death-rate from these fevers is the lowest since 1880. Anti-malarial and anti-mosquito operations are now carried out in all the Bengal jails, and Colonel Buchanan believes that the majority of the cases arise from infection by newly arrived prisoners. Quinine as a prophylactic is issued in all the jails, in the majority of cases 15 grains on two successive days being given to all prisoners from July to the end of November. An important point is that although thousands of pounds of quinine have been used for ten years in large doses in the jails, there has not been a single case of blackwater fever, showing that quinine *alone* will not cause the disease. The report closes with an account of the movements of the various medical officers, and in it is mentioned the fact that Lieutenant-Colonel H. J. Dyson, whose premature death was so great a loss to the service, stuck to his jail practically till the last. It is always a pleasure to review any of Colonel Buchanan's work, which he so ungrudgingly gives to the Government he serves so well.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

The Port of Manchester.—Mr. W. F. Dearden in his current annual report enters into some detail as regards the important matter of food inspection, a subject which has acquired an added interest recently in consequence of the operations of the Public Health (Regulations as to Food) Act, 1907. A useful chart is furnished showing for each of the principal ports during 1907 the value of food imports compared with the value of total imports from abroad. The three chief ports as regards food imports are in order of magnitude London, Liverpool, and Hull, Manchester coming fourth as regards total imports but not as regards food imports alone. In connexion with the inspection of fresh meat it is of interest to note that one animal slaughtered shortly after landing on account of illness was found to be suffering from Texas fever. Mr. Dearden states that the inspections at the Foreign Animals Wharf are rendered difficult by virtue of the fact that slaughtering takes place at very irregular hours, notwithstanding the fact that the Manchester corporation has laid it down that no slaughtering shall be permitted on the premises in question after 6 P.M. on Saturday until 2 A.M. on Monday. Apparently the importers commence operations at any time convenient to themselves, whether on Saturday, Sunday, or other days. Consequently the inspector is often absent during a portion of the time when slaughtering is taking place. This seems an eminently unsatisfactory state of affairs and not one which is likely to guarantee wholesome meat reaching the consumer. As regards grain, 694 tons were seized during 1908. Very little tinned fruit pulp was dealt with during the year as compared with 1907, but Mr. Dearden is unable to say whether this food may not be reaching Manchester *viâ* the railroad in consequence of the vigorous action taken against it in 1907. Considerable quantities of tinned meats were imported, but owing to the scarcity of American cattle the American exports consisted chiefly of meats which had been packed prior to 1906, but which had been examined by sample by the American authorities and found to be sterile. A very good feeling seems to obtain in the Port of Manchester between the food inspectors and the importers and a large number of tins are surrendered voluntarily. As we pointed out in THE LANCET of April 24th, a large number of pigs' tongues, packed in barrels and preserved in "patent pickle," was imported, and in consequence of decomposition having been set up in 49 of the barrels the contents of them were seized. The preserving fluid was found crowded with bacteria and the interiors of the tongues were decomposed. The preserving liquid consisted for the most part of sodium chloride and boric acid, there being in one instance examined 66·56 grains of boric acid per pound of preserving liquor. The ends of the barrels were bulging and when pierced a turbid liquid spurted therefrom. Moreover, the tongues were trimmed of every particle of lymphatic glands, and it is probable that the Local Government Board will be asked to prohibit the importation of tongues so treated. Tinned peas were also condemned in large quantities owing to the excessive amount of copper with which they were coloured. Condensed milk is introduced by way of Manchester in substantial amounts, a considerable proportion which comes *viâ* Rouen being prepared from unskimmed milk, and the remainder which comes *viâ* Rotterdam being prepared from what is described as "machine skimmed milk." Only one consignment, 20 per cent. of which tins were found to be "blown," was condemned. In connexion with this important question of tinned milk Mr. Dearden states that

all tins of sweetened condensed milk contain micro-organisms to a greater or less degree; the contents of a large number exhibit the *enteritidis* reaction and the presence of the bacillus coli communis has certainly been demonstrated.

Bath Urban District.—In 1891 the population of Bath was 51,844, and in 1901 it was 49,839. In the middle of 1908 it was estimated at between 48,000 and 52,000. Dr. W. H. Symons, the medical officer of health, furnishes in his report the figures relative to the Bath patients who were discharged from Winsley Sanatorium during the three years 1905 to 1907, and we are glad to see that the after-results have been kept in the manner recommended by Dr. H. T. Bulstrode in his report upon sanatoriums—that is to say, the figures for each year are kept separately and in such a fashion that the patients treated in any one year can be followed through successive years. In 1905 there were six Bath patients discharged from Winsley, and of these there were in January, 1908, two alive, one of whom was at full work. Of six discharged in 1906 there were four alive, three of whom were working in 1908. Under the Midwives Act of 1902 medical aid was called for in 82 cases, and Dr. Symons reports that the qualified midwives who are able to recognise danger call in medical aid in a large proportion of their cases, and he adds that the returns indicate that the infantile mortality in connexion with confinements attended by midwives was no greater than among those attended by medical men. There were 79 deaths among the infants of residents during 1908, and of these 20 took place during the first week and 35 during the first four weeks, the principal cause being premature birth. Dr. Symons thinks that the prevention of these deaths is a matter more for the Babies' Welcome Society than for the usual routine work, since it has been found a very difficult matter to rear immature infants.

Ilkley Urban District.—Dr. Augustus H. Bampton has recommended that the sewer ventilators in the streets of this town should be covered over since he considers that surface ventilators can be dispensed with without danger. There are, he states, no surface ventilators in Bath, Blackpool, Bournemouth, Hastings, Eastbourne, and Scarborough, but he does not tells us which, if any, method of ventilation is adopted in the place of surface ventilators. It is quite true, as Dr. Bampton states, that Bristol has no ventilators whatever to the sewers, and it is impossible to demonstrate that the health of the city suffers in any particular thereby. Certainly the whole question of the ventilation of sewers is in need of elucidation, and it would be a useful course could some investigation be undertaken by the Local Government Board upon the subject in connexion with the work of the Departmental Committee on the use of intercepting traps which was appointed by Mr. Burns last winter and which is still sitting. The vital statistics for Ilkley for 1908 do not suggest that the defective sewers have influenced the death-rate in any undue degree. The general death-rate for 1908 was 8·4 per 1000, the zymotic death-rate 0·28 per 1000, and the infantile mortality 45·7 per 1000 births.

Metropolitan Borough of Chelsea.—The Chelsea borough council has decided not to adopt the Notification of Births Act, 1907, the public health committee not being satisfied that the measure would prove workable. There is, however, a lady sanitary inspector in the borough who is doing good work, and in connexion with the subject of illegitimate births she reports that as the majority of the mothers of such children are obliged to go to work they have either to put their children out to nurse entirely or leave them in charge of neighbours during working hours. The usual charge for the children when boarded out is from 5*s.* to 6*s.* per week, while for daily "minding," exclusive of food, the average charge is 4*d.* The result is that the majority of illegitimate infants are brought up by hand and bottle-fed. Of the total number of scarlet fever cases which were admitted from Chelsea into the Metropolitan Asylums Board hospitals, there were 18 who were subsequently certified not to be suffering from scarlet fever and they were discharged after an average stay of 23 days. It speaks well for the administration of the hospitals that none of these children contracted the disease. Dr. Louis C. Parkes furnishes in his report a table showing the percentage of notified cases of scarlet fever, diphtheria, and enteric fever which have been removed from Chelsea to the Metropolitan Asylums Board hospitals since 1891, and in 1908 the several percentages amounted to 95, 91, and 71.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8995 births and 4462 deaths were registered during the week ending May 8th. The annual rate of mortality in these towns, which had been 17·1, 15·8, and 14·5 per 1000 in the three preceding weeks, further declined to 14·1 in the week under notice. During the first five weeks of the current quarter the death-rate has averaged 15·7 per 1000, the rate in London during the same period being 15·3. The lowest recorded annual death-rates in these towns last week were 6·5 in Hornsey, 6·9 in Reading, 7·2 in Willesden, and 8·0 in Rotherham; the rates in the other towns ranged upwards, however, to 20·6 in Stockport, 20·8 in St. Helens, 21·2 in Hanley, and 22·4 in Wolverhampton. In London the recorded death-rate during the week was equal to 14·1 per 1000. The 4462 deaths from all causes in the 76 towns last week showed a decline of 107 from the number in the previous week, and included 445 which were referred to the principal epidemic diseases, against 583, 517, and 462 in the three preceding weeks; of these 445 deaths, 198 resulted from measles, 109 from whooping-cough, 46 from diphtheria, 43 from scarlet fever, 42 from diarrhœa, and seven from "fever" (principally enteric), but not any from small-pox. The 445 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·4 per 1000, against 1·9, 1·6, and 1·5 in the three preceding weeks. No death from any of these epidemic diseases was registered last week in Brighton, Norwich, Birkenhead, Northampton, or in nine other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·2 in Swansea, 3·6 in Warrington, 3·7 in Salford, 4·4 in St. Helens, 4·5 in Middlesbrough, and 5·2 in Wigan. The fatal cases of measles, which had declined from 438 to 225 in the seven preceding weeks, further fell last week to 198, but caused death-rates ranging upwards to 1·9 in Salford, 2·0 in Wolverhampton and in Stockton-on-Tees, 2·2 in St. Helens and in Warrington, and 4·6 in Wigan. The deaths from whooping-cough, which had been 131 and 113 in the two preceding weeks, further decreased to 109 in the week under notice, the highest death-rates from this disease being 1·1 in St. Helens, 1·9 in Tynemouth, 2·1 in Swansea, and 3·5 in Middlesbrough. The fatal cases of diphtheria, which had been 47, 48, and 37 in the three preceding weeks, rose again last week to 46, of which 15 were registered in London and its suburban districts, four in Manchester, and three in Portsmouth. The 43 deaths from scarlet fever exceeded the numbers in other recent weeks, and included 14 in London and its suburban districts, four in Liverpool, four in Manchester, and three in Salford. The 42 fatal cases of diarrhœa also showed a slight excess over recent weekly numbers, while the deaths from "fever," which had been 13 in each of the two preceding weeks, declined to seven in the week under notice, and were fewer than the number in any previous week of the year. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had decreased from 2873 to 2181 in the nine preceding weeks, had further fallen to 2175 at the end of last week; 309 new cases were admitted during the week, against 244, 265, and 305 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 341, 294, and 232 in the three preceding weeks, further declined to 212 in the week under notice, and were 58 below the corrected average number in the corresponding week of the five years 1904–08. The deaths in London referred directly to influenza, which had been 45 and 32 in the two preceding weeks, fell last week to 16, but were equal to the corrected average number. The causes of 40, or 0·9 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during the week were duly certified in London, Manchester, Leeds, Bristol, West Ham, and in 50 other smaller towns; the 40 uncertified causes of

death included nine in Liverpool, four in Birmingham, three in Gateshead, and two each in Sheffield, Leicester, Bolton, Sunderland, Preston, and Rochdale.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 18·4, 17·4, and 16·9 per 1000 in the three preceding weeks, further declined to 16·2 in the week ending May 8th. During the first five weeks of the current quarter the death-rate in these towns averaged 17·3 per 1000, and exceeded by 1·6 per 1000 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates during the week under notice ranged from 12·5 in Paisley and 13·0 in Greenock, to 19·4 in Dundee and 20·6 in Perth. The 577 deaths from all causes registered in the eight towns last week showed a further decline of 28 from the numbers in recent weeks, and included 78 which were referred to the principal epidemic diseases, against 86 and 93 in the two preceding weeks; of these 78 deaths, 41 resulted from whooping-cough, 17 from diarrhœa, eight from measles, eight from scarlet fever, two from diphtheria, and two from cerebro-spinal meningitis, but not any from small-pox or from enteric fever. These 78 deaths were equal to an annual rate of 2·2 per 1000, or 0·8 more than the mean rate last week from the principal epidemic diseases in the 76 English towns. The fatal cases of whooping-cough in the eight Scotch towns, which had been 46 and 55 in the two preceding weeks, declined again to 41 in the week under notice, and included 26 in Glasgow, eight in Edinburgh, and four in Aberdeen. The deaths from diarrhœa, which had risen from 13 to 21 in the four preceding weeks, declined again last week to 17, of which eight occurred in Glasgow, three in Aberdeen, and two each in Edinburgh and Dundee. The fatal cases of measles, which had been six and two in the two preceding weeks, rose again to eight last week, and included five in Paisley and two in Aberdeen. The eight deaths from scarlet fever exceeded the numbers in other recent weeks, and included six in Glasgow, where the two fatal cases of cerebro-spinal meningitis also were registered. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 135, 118, and 99 in the three preceding weeks, further fell to 88 in the week under notice, and were 31 fewer than the number returned in the corresponding week of last year. The causes of 17, or 3 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 27·7, 24·5, and 22·0 per 1000 in the three preceding weeks, further fell to 18·8 in the week ending May 8th. During the first five weeks of the current quarter the death-rate averaged 23·7 per 1000, whereas the mean rate during the same period did not exceed 15·3 in London and 17·1 in Edinburgh. The 144 deaths of Dublin residents from all causes during the week under notice showed a decline of 24 from the number in the preceding week, and included eight which were referred to the principal epidemic diseases, against 21, 12, and 16 in the three preceding weeks. These eight deaths were equal to an annual rate of 1·0 per 1000, the death-rate from the principal epidemic diseases in the same week being equal to 1·6 both in London and in Edinburgh. Of the eight deaths from these epidemic diseases in Dublin last week, four resulted from whooping-cough, two from measles, and two from diarrhœa, but not any from small-pox, scarlet fever, diphtheria, or "fever." The 144 deaths registered during the week included 26 of infants under one year of age and 34 of persons aged upwards of 60 years, the corresponding numbers in the previous week having been 31 and 53 respectively. Six inquest cases and three deaths from violence were registered last week, and 49, or 34 per cent., of the deaths occurred in public institutions. The causes of three, or 0·2 per cent., of the deaths in Dublin during the week were not certified either by a registered medical practitioner or by a coroner; in London the causes of all the 1304 registered deaths were certified, while in Edinburgh the proportion of uncertified deaths was 4·5 per cent.

THE SERVICES.

THE NEW DIRECTOR-GENERAL OF THE INDIAN MEDICAL SERVICE.

Lieutenant-Colonel Charles Pardey Lukis, principal of the Medical College, Calcutta, has been selected to succeed Sir Gerald Bomford, Director-General, Indian Medical Service, who is proceeding home preparatory to retirement. Colonel Lukis entered the service in 1880, and was with the field forces engaged in Waziristan in 1881 and Zhob Valley in 1884. He entered the Civil Department in 1886 and was stationed in the United Provinces until 1899, when he became Civil Surgeon of Simla. He accompanied Lord Curzon to the Persian Gulf in 1903, and became honorary surgeon to the Viceroy in 1905.

ROYAL NAVY MEDICAL SERVICE.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon John Jenkins has been placed on the retired list at his own request (dated May 7th, 1909).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated April 28th, 1909):—John McD. McCarthy, John Poe, Hamilton G. F. Stallard, and Ernest Brodribb.

TERRITORIAL FORCE.

Infantry.

10th (Scottish) Battalion, The King's (Liverpool Regiment): Surgeon-Lieutenant David M. Alexander resigns his commission (dated March 11th, 1909).

Royal Army Medical Corps.

London Mounted Brigade Field Ambulance: The appointment of Henry Robinson to a Lieutenancy bears date April 1st, 1908, and not March 5th, 1909, as stated in the *London Gazette* of March 26th, 1909.

3rd West Lancashire Field Ambulance: Richard Coffey to be Lieutenant (dated Jan. 11th, 1909).

5th London Field Ambulance: Sidney Francis St. Jermain Steadman to be Lieutenant (dated Feb. 19th, 1909).

2nd Welsh Field Ambulance: Major Alfred William Sheen to be Lieutenant-Colonel (dated Feb. 1st, 1909).

1st London (City of London) General Hospital: Major Wilmot Parker Herringham is seconded for service with the London University Contingent, Senior Division, Officers Training Corps (dated Feb. 20th, 1909).

2nd Western General Hospital: The following announcement is substituted for that relating to Major W. Thorburn which appeared in the *London Gazette* of April 27th, 1909:—Major William Thorburn to be Lieutenant-Colonel and to be an officer whose services will be available on mobilisation (dated Feb. 28th, 1909).

Sanitary Service.—Lieutenant-Colonel John A. Jones.

For Attachment to Units other than Medical Units.—Thomas Hanson Crossfield Derham to be Lieutenant (dated Jan. 1st, 1909). Thomas Brown to be Lieutenant (dated (April 3rd, 1909).

Attached to Units other than Medical Units.—Lieutenant-Colonel C. Downing, Major Frederick V. Adams, Major Ernest W. Barnes, Major Harry T. Challis, and Major Alfred Rees.

The undermentioned officers are granted the honorary rank of Surgeon-Colonel (dated March 31st, 1908):—

Royal Field Artillery.

2nd Northumbrian Brigade: Surgeon-Lieutenant-Colonel Thomas McC. Foley.

Infantry.

6th Battalion, The Prince of Wales's (North Staffordshire Regiment): Surgeon-Lieutenant-Colonel J. Fausset.

The undermentioned officer is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated March 31st, 1908):—4th Battalion, The Welsh Regiment: Surgeon-Major Evan Evans.

The undermentioned officer is granted the honorary rank of Surgeon-Major (dated March 31st, 1908):—4th Battalion, The King's Own (Royal Lancaster Regiment): Surgeon-Captain Richard J. Morris.

THE UNIVERSITY OF LONDON OFFICERS TRAINING CORPS.

The first general parade of this contingent was held at the

University of London, South Kensington, on May 12th (Presentation Day), when addresses were delivered by the Vice-Chancellor, Sir William Collins, M.P., and Lieutenant-General Sir W. H. Mackinnon, Director-General of the Territorial Force, representing the War Office.

Correspondence.

"Audi alteram partem."

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—As a physician to one of our general hospitals and as an assistant physician to a special hospital in London, I write to thank you for being so public-spirited as to publish an annotation in the current number of THE LANCET on the Medical Treatment of London School Children. You say, "the idea of using the honorary services of the medical staffs in return for a grant to hospital funds seems to us monstrous." I agree with every word of your protest and am sure that it is high time that the public should be completely informed of the burden which already rests on the shoulders of the honorary medical staffs of our London hospitals. Were the facts known to the public as thoroughly as they are to you, I am quite sure this further exploitation proposed by the London County Council would never have been mooted. Your suggestion that there should be a meeting of the honorary staffs of our hospitals is excellent, but I am hopeful that your strongly worded protest will render such a step unnecessary.

I am, Sir, yours truly,
H. BATTY SHAW, M.D. Lond., F.R.C.P. Lond.

Devonshire-street, W., May 7th, 1909.

To the Editor of THE LANCET.

SIR,—I am glad to see that you are calling attention to the serious questions raised by the new Education Act. So many interests are involved that it is to be expected that no hurried decisions will be taken. I doubt if any hospital authority would act in such a matter without consulting the hospital staff, and, speaking for myself alone, I should be glad if it were found possible to call some meeting at which the staff of each London hospital should be represented.

I am, Sir, yours faithfully,
W. P. HERRINGHAM.

May 7th, 1909.

To the Editor of THE LANCET.

SIR,—*A propos* of the last paragraph in your article on the above, I feel myself at liberty to state that the staff of the London Hospital discussed the matter at its last meeting and unanimously passed a resolution to the effect that it did not approve of the principle of the hospital being expected to treat such cases in return for a subsidy of public money received from the London County Council, but coupled with a rider that it was willing to meet the lay committee of the hospital to consult as to the best means by which the problem of treating these children might be met. This statement may help to set Mr. Beckett-Overy's mind at rest as to the idea that the staffs of the London hospitals are in ignorance of what is going on, but I fear it does not go very far in deciding what is to be done.

Within the limits of a letter it is impossible to discuss the problem as a whole, but one may just glance at the fundamental facts, the most obtrusive and striking of which is that if the proposal of the London County Council were attempted the special departments (ear, throat, nose, skin) of the London hospitals and even the ordinary out-patient departments would have to be enlarged to twice or even three times their present capacity to cope with the work; this simple mathematical fact alone seems to render the proposal absolutely impossible in practice. Another fact is that these "defective" children are at present being compelled to assemble together in large numbers for purposes of receiving what is called education, and this fact leads to the next, that unless the "defectives" are treated, direct infection and imitation must lead to their increase.

The problem seems to me to be how to treat these children without destroying parental responsibility altogether, and with the condition of seeing that the medical profession is fairly remunerated for its services; the latter can be dealt with easily enough by several schemes, the former is doomed to oblivion, for no one seems to have sufficient moral courage nowadays even to attempt to suggest that parents have any responsibilities.

I am, Sir, yours faithfully,
FRED. J. SMITH.

Harley-street, W., May 12th, 1909.

X RAYS AND RINGWORM.

To the Editor of THE LANCET.

SIR,—There appeared in the *Times* a few weeks back a letter from an Edinburgh physician suggesting that the x rays *might* have a deleterious effect on the brain cells. His remarks were directed against "Sabouraud's" method of x ray treatment for ringworm of the scalp. A "scare" has been produced chiefly by the cheaper lay press, and parents are becoming convinced that the x rays will cause their infected children to become "idiots." One might equally argue that because the profession is prescribing an occasional dose of opium our children will eventually become "morphomaniacs." The suggestion is a most pernicious one. At St. John's Hospital for Skin Diseases we have had several parents object to the x rays on account of the aforesaid letter.

Practically at all hospitals, large and small, an expert is attached who from experience knows exactly the requisite dose to produce epilation. The essence of Sabouraud's method lies in using a *low* tube, the rays of which are well known to be readily stopped by bone, even of the thickness of a child's skull. The following is a useful demonstration. I exposed the left side of a child's head, aged four years, to a low tube, the primary spark gap was three inches, the milliampèremeter registered 1, and by Benoist radiometer No. 5. A pastille was changed to the full tint in 11 minutes. A piece of lead half an inch thick and of the size of a farthing was placed on the centre of the exposed area. Examination with the screen showed the whole head opaque; the lead could not be differentiated. A Lumière plate was placed under the right side, and after the above full dose the plate was slightly fogged but no image of the lead was apparent. By the fourteenth day the left side of the head was completely bald, so that although the scalp received the maximum dose requisite to make the hair fall perfectly the brain cells, protected by the bone, must have received but little irradiation. The hair under the lead was unaffected. I am of opinion that no scalp should be treated by x rays unless the fontanelles are completely closed. The expert use of x rays for therapeutic purposes, at any rate in the treatment of ringworm, is of great value; and it is rather late in the day to suggest alarmist views, which have not a particle of evidence to support them.

I am, Sir, yours faithfully,
CHISHOLM WILLIAMS.

New Cavendish-street, W., May 8th, 1909.

EPSOM SALTS AS A POISON, AND ITS USES IN THE TREATMENT OF WARTS.

To the Editor of THE LANCET.

SIR,—I read with much interest the article by Dr. Charles Fraser on the poisonous effects of Epsom salts in your issue of April 24th, p. 1174, not only on account of the great rarity of such cases as he records, but because, as medical officer to a large Poor-law school with 600 children whose ages range from five to 16 years, his remarks were of considerable interest to me. In this school Epsom salts are largely used, as probably in most schools of this kind, and given in large doses up to half an ounce. Although I have never seen any child suffer from alarming symptoms after a dose of these salts, still I have from time to time known children complain of pain, feel sick and cold, with a pinched look about the face. One has never attached any importance to this owing to the fact that Epsom salts have always been regarded as a therapeutic agent free from danger, but after reading the article one asks one's self, Were these symptoms of a toxic nature or not? It is true that the dose taken in each of Dr. Fraser's cases was large and in a somewhat concentrated form, but considering it is the commonest domestic saline purgative in chronic constipation, and forms one of the

chief ingredients of natural aperient waters, there must be thousands of people who take every week one and two ounces for a dose and feel no bad effects. The sale of Epsom salts at chemists' shops every Saturday is enormous, to say nothing of the cases where four ounces is frequently taken for a single dose by pregnant women in the hope of bringing on an abortion. The question is certainly one of interest, but why a fatal toxic action should be brought about in a few cases is a question I am not prepared to answer.

I have recently had under observation at Dr. T. D. Savill's clinic at St. John's Hospital for Diseases of the Skin two cases of verruca plana of the hands and face, one of which has been successfully treated by Epsom salts. The first case was that of a girl, aged 20 years, who presented herself at the skin hospital on Feb. 3rd of this year suffering from warts of six years' duration. Upon inspection the dorsal surface of both hands was covered with warts of considerable size, while in addition there were a few scattered ones on the neck and around the mouth. She was put on Epsom salts in drachm doses thrice daily, no external application was given, and by March 24th the warts had entirely disappeared. The second case was a little boy, aged four years, seen on April 21st, suffering from warts of seven months' duration. The dorsal surface of both hands was much affected with them and a few were also to be seen about the mouth. He was treated with Epsom salts in drachm doses twice daily, but as he has only been under treatment for this short period there is no marked effect at present, but I have no hesitation in saying that in the course of a few weeks more they will have entirely disappeared.

Some 15 years ago I treated a little girl, aged ten years, for extensive warts of the face and body. I gave her Epsom salts in drachm doses twice daily for over three months; at the end of this time the whole of the warts had entirely vanished. None of these cases have ever complained of any unpleasant symptoms.—I am, Sir, yours faithfully,

Croydon, May 6th, 1909. J. B. RIDLEY, M.D. Edin.

OTITIS MEDIA AS A COMPLICATION OF WHOOPING-COUGH.

To the Editor of THE LANCET.

SIR,—Although we do not find otitis media given as a complication of pertussis, surely it is by no means a rare condition. I have frequently noted it, and during this past winter during an epidemic I have had over a score of cases. All these cases developed the ear trouble at the beginning of the spasmodic stage. There was little possibility that the trouble was the ordinary otitis media of infants and young children. I am, Sir, yours faithfully,

A. BANKS RAFFLE, M.D. Durh.

Westoe Village, S. Shields.

THE PROXIMATE FACTOR IN DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—I agree with Dr. F. Hare that the type of inebriety sometimes changes. The periodic may become a regular drunkard. The "regular" drunkard who has to an extent pulled himself together and has only occasional outbreaks I should still classify as "regular." But the "regular" drunkard rarely, if ever, becomes a periodic dipsomaniac. I have already referred in a previous letter to the drugs which I have found most useful in warding off delirium tremens. I am, Sir, yours faithfully,

Rickmansworth, May 10th, 1909. F. S. D. HOGG.

AN INFLUENTIAL APPEAL.

To the Editor of THE LANCET.

SIR,—We desire to bring under the notice of your readers the case of a registered medical practitioner of many years' standing and in good repute in this city. Owing to circumstances of a family nature, not in the least degree reflecting on his character or on that of any member of his family, and to his indifferent health of late, he is in urgent want of pecuniary help to enable him to maintain his position. We, therefore, venture to appeal for that assistance to the members of his own profession, who are always willing to help their brother practitioners. Any of the undersigned will be glad to receive any donations that may be kindly sent in response to this urgent appeal.

We are, Sir, yours faithfully,

ANDREW J. HORNE,
President, Royal College of Physicians of Ireland;

JOHN LENTAIGNE,
President, Royal College of Surgeons in Ireland;

JOHN W. MOORE, M.A., M.D., D.Sc., F.R.C.P.I.,
40, Fitzwilliam-square, Dublin;

CHARLES A. CAMERON, Knt.,
May 11th, 1909. 51, Pembroke-road, Dublin.

THE BUDGET AND THE GENERAL MEDICAL PRACTITIONER.

To the Editor of THE LANCET.

SIR,—Mr. Winston Churchill in the discussion on the Budget in the House of Commons on Monday is reported in the *Daily Telegraph* to have said, "The middle classes are not affected in any perceptible degree except by the death duties." Is this so? Without entering on the political side of the question, I should like to dispute the above conclusion—that is, if we general practitioners may describe ourselves as belonging to the "middle classes." I have no doubt that there are many, very many, others situated as I am, and I should like to know what they think of the situation. I am a still struggling general practitioner and have been struggling for the last 30 years to keep my head above water, to pay my way, to give my boys and girls such an education as would fit them for some useful place in this world, and, in addition, to attempt to provide a little fund to help in our old age to lessen the severity of the grinding tyranny of badly paid medical practice, and lastly, after death to keep my wife and daughters out of the workhouse.

With regard to this last, one has only to pick up THE LANCET from week to week to read the distressing straits to which delicately nurtured ladies are driven to keep body and soul together after they have been deprived of the breadwinner, perhaps prematurely, before he has had the opportunity of making suitable provision for them. But read, mark, learn! How does a so-called Liberal Government encourage us? I have been in practice for over 30 years and in that time, by dint of struggling, striving, saving, scraping, denying myself almost every luxury, and almost necessaries in the station of life in which it has been my lot to be cast, I have managed to save £2000. The income from this, if I had been a retired Government servant (probably acting as director of two or three public companies), would have been called "deferred pay," and charged for the purpose of income-tax at the rate of 9*d.* in the £1, but because I have been thrifty, frugal, and saving at the expense of my comfort and pleasure, a logical Government, bent on bestowing old-age pensions on the deserving and undeserving alike, chooses to call it "unearned" income and charges me at the rate of 1*s.* 2*d.* for every £1 I receive. *Unearned* forsooth! When I have tramped on my ten toes from morn till night till my feet ached to earn it! What a premium on thrift! What a satire on consistency! What a parody on justice! Is it possible to argue that thrift is not actually discouraged by such a proceeding? The interest on my little ewe lamb is to be assessed at the same standard as that of those lucky individuals who possess comparatively large incomes although "they toil not neither do they spin."

Again, a portion of my £2000 has been for many years invested in what appeared to be a safe and fairly remunerative investment—viz., brewery shares. What is the outlook with regard to these? The retort will probably be made that I ought not to have invested in such uncertain security. Perhaps not. Again, with a 3*s.* 9*d.* addition to the spirit duty, will not our drug bill be considerably increased?

Lastly, we shall be hit by the death duties. What wonder, then, that the professional classes exclaim at the inroads which the exigencies of Government demands make on their scanty means, but to say that we are not affected in any perceptible degree is adding insult to injury, is unjust, and

in my opinion unwise, and is certain to rouse a spirit of animosity and resentment.

I am, Sir, yours faithfully,

May 5th, 1909. M.R.C.S.

WITH REGRETS.

To the Editor of THE LANCET.

SIR,—Having published for advertising purposes a letter we received from Dr. F. W. Forbes Ross, on Dec. 18th, 1908, which he has informed us was not intended for publication, we beg to state that we have taken the necessary steps to withdraw that letter as an advertisement, and much regret if any inconvenience has been caused to Dr. Forbes Ross through a misapprehension on our part.

Yours faithfully,

JOHN KNIGHT, LIMITED.

Royal Primrose Soap Works, Silvertown, London, E.,
May 12th, 1909.

THE GERMAN SURGICAL CONGRESS.[1]

(FROM OUR BERLIN CORRESPONDENT.)

(*Continued from p. 1350.*)

Operation for Embolism of the Pulmonary Artery.

Professor RIEDEL of Jena reported the case of a woman in whom an operation for femoral hernia was followed by thrombosis of the femoral vein. One morning while the dressing was being changed she suddenly became very bad and complained of præcordial pain and dyspnœa. The pulse totally disappeared. It was obvious that embolism of the pulmonary artery had occurred and the assistant surgeon at once decided to operate. Under slight narcosis a resection of the second and third left ribs was performed and the left pleura and the pericardium were opened. The pulmonary artery was found to be rather firmer than normal and an incision was accordingly made into it without any hæmorrhage resulting. An embolus of 10 centimetres in length was extracted from the artery, but even then only a slight bleeding occurred. Another embolus of 10 centimetres in length was then removed, which was followed by profuse hæmorrhage from the artery. This was stopped by artery forceps and then the incisions and the thoracic wound were closed by sutures. The cardiac action ceased several times during the operation, but reappeared after massage of the heart. The patient after the operation felt much relieved. The operation was performed during Professor Riedel's absence on the first day of the Congress by his assistant, and on the fourth day Professor Riedel was able to tell the Congress that he had received telephonic information that the patient's state continued to be satisfactory.

Dr. MÜLLER of Rostock said that he was in the habit of performing a ligature of the saphena vein to prevent embolism of the pulmonary artery. He reported a case where the thrombosis had reached the external iliac vein at its junction with the hypogastric vein. He ligatured the vein at this point and removed the whole external iliac and common femoral veins as low down as the union with the saphena. The œdema of the limb disappeared. Dr. Müller recommended this method of dealing with an ascending thrombosis.

Esmarch's Method of Constriction applied to the Abdominal Aorta.

Dr. MOMBURG of Spandau reported that he had applied Esmarch's method of constriction to the abdominal aorta. He put an indiarubber bandage round the waist between the ribs and the crista ilii so tightly that the pulse in the femoral artery disappeared. He then put another bandage round each femur in order that the circulation in the legs might afterwards be restored by degrees when the abdominal bandage was loosened. Dr. Momburg claimed that this method was valuable for operations on the abdominal organs, especially on the female genital organs. The re-establishment of the circulation after the removal of the bandage produced contractions of the uterus.

Professor TRENDELENBURG of Leipsic said that he had twice observed syncope in operations on patients under Momburg's constriction. One case was that of operation for cancer of the rectum and the other disarticulation of the femur. The cardiac weakness lasted for 24 hours. By experiments on animals he had found that by the compression of the aorta the blood pressure increased rapidly for 25 seconds after the constriction was applied and decreased when the bandage was removed. He therefore issued a warning against the method, especially in cases of weak heart.

Dr. PAGENSTECHER of Wiesbaden said that he had used Dr. Momburg's method in operations on the pelvis with good results and without any hæmorrhage. After the operation, however, a paresis of the bladder and of the rectum appeared which was possibly the sequel to a nerve lesion caused by the constriction.

Operations for Hypospadias and Cryptorchism.

Dr. BECKER of Rostock said that in hypospadias he implanted a piece of the saphena vein into a tunnel made in the penis. No catheterisation became necessary, and the implanted piece healed without difficulty. He had performed the same operation in a case of hermaphroditism. It was still a debateable point whether the implanted tissue would be durable or whether shrivelling, and consequent strictures, might afterwards develop.

Dr. SCHMIEDEN of Berlin reported that he had once implanted a piece of ureter obtained from another patient operated on for hydronephrosis.

Dr. AUSCHÜTZ of Kiel said that in cases of cryptorchism he had exposed the spermatic cord and the vessels, and after bringing the testicle into a normal position had united it with the other testicle by silk sutures.

Operations on the Stomach.

Professor RIEDEL spoke on the Resection of the Middle Portion of the Stomach. The operation was indicated when a gastric ulcer had perforated and adhesions existed between the stomach and the liver, or the abdominal wall, or the omentum, also in cases of hour-glass stomach. The results were, according to his experience, fairly good. He had operated in 25 cases with seven deaths, none of which was due to peritonitis. The cause of death was either pneumonia or inanition. In one case the whole stomach was filled with masses of growth. When the growth was removed it was found to have been connected by a pedicle with the posterior wall of the stomach. The middle part of the stomach was then resected. The growth proved to be malignant adenoma.

Professor PAYR of Greifswald was of opinion that in ulcers of the lesser curvature of the stomach the operation of gastro-enterostomy was not sufficient. He had therefore in 17 cases performed an excision or resection of the stomach. To ascertain the local conditions he brought the stomach fully into view through the abdominal wound so that he could see whether adhesions existed between the posterior surface of the stomach and the pancreas. An exploratory incision was then made into the stomach in the neighbourhood of the supposed ulcer. If the ulcer had perforated into the pancreas the adherent part only was resected.

Dr. BREUER of Linz said that relapses of ulcers happened even after resections and that he had therefore abandoned resection for gastro-enterostomy. It was essential for the success of gastro-enterostomy to make the anastomosis in the right place.

After-treatment of Laparotomies.

Dr. KOTHENBERG of Hamburg reported that in the Eppendorf Hospital the patients were allowed to leave their beds in from three to four days after laparotomy. 629 cases, the majority of which were cases of operation for appendicitis, were treated in this way. The mortality from embolism of the pulmonary artery, which formerly was 10 per cent. of the total mortality, had now decreased to 1·8 per cent. The frequency of pneumonia seemed unaltered. The wounds were, as a rule, closed by several rows of sutures (*etagennaht*), but even patients whose wounds were simply plugged were allowed to leave their beds. The action of the bowels is made easier and convalescence is considerably shorter. Of 71 cases examined a year after the operation two showed post-operative hernia; in both these the wound had not been sutured but plugged.

Operations on the Pancreas.

Professor MARTENS of Berlin said that in cysts of the

[1] Our correspondent received valuable assistance in the preparation of this report from the editor of the *Deutsche Medicinische Wochenschrift*, whose courtesy we wish to acknowledge.

pancreas incision was the normal proceeding, the drawback, however, being that a fistula sometimes was left. He showed a case where a big growth was present behind and connected with the stomach. It was a large cyst of the pancreas, but it was easily shelled out. The wound was plugged and healed within six weeks without leaving a fistula. On examination of the wall of the cyst numerous white nodules of the size of a pea were found, which proved to be sarcomatous. A year later pain began to be complained of, and then a small growth appeared in the scar and recurrence was obvious.

Operations on the Brain.

Professor VON BRAMANN of Halle described an Operation for Hydrocephalus. He trephined half a centimetre behind the coronal suture and brought the dura mater into view. He then introduced a short cannula through the commissure into the ventricle, the depth before this was reached being in children about three centimetres and in adult persons about from six to eight centimetres. When the fluid had run out the aperture in the commissure was somewhat dilated and the wound was closed. Professor von Bramann performed this operation in 22 cases, of which 13 were cases of growth with hydrocephalus, eight were cases of genuine hydrocephalus, and one was a case of epilepsy. The effect of the operation was that the fontanelle sank, the patient's mental state improved, and the contractures and the amaurosis became better. In one case it was ascertained by post-mortem examination that the opening was still patent after seven months.

Mobilisation of Joints.

Professor KLAPP of Berlin drew the attention of the Congress to the fact that tuberculosis of the hip-joint might, in certain circumstances, get well without any impairment of the function of the joint. In cases of gonorrhœal arthritis Bier's passive congestion gave excellent results, so that incision and drainage were often unnecessary. The results were best in the acute phlegmonous form, but even in more chronic cases success might eventually be obtained provided that the technical directions were observed. As to operations for restoring mobility to ankylosed joints, the best results were obtained in the elbow-joint. It was the aim of the operation to free the existing adhesions and to avoid the formation of fresh ones. For this purpose either cartilage, or muscles, or fascia, or tendons must be interposed between the epiphyses. Professor Klapp had recently devised a new method of mobilising joints which had become ankylosed after fractures. He removed the callus but spared the surface of the joint which was then united by nails with the diaphysis from which a small piece was previously removed by the saw. Sometimes the extirpation of the shrivelled capsule was advisable.

Professor PAYR said that the condition of the capsule was the most essential point in the mobilisation of joints. Forcible breaking down of adhesions produced new cicatrisations within the capsule owing to which the joint became still more ankylosed than before. He recommended in such cases the removal of the capsule, but the ligaments should be left. According to his experiments in animals the capsule might regenerate.

While speaking on the subject of fractures, Dr. THÖLE of Hanover said that he had seen in a patient who had fallen from a horse a separation between the base of the cranium and both upper jaws, so that the face could be moved in a sagittal direction.

Professor KAUSCH of Berlin mentioned that three years ago he had implanted a piece of bone eight centimetres long, freed from periosteum, at the place of the knee-joint after resection for malignant growth. The femur was later amputated for recurrence, and on examination it was found that the periosteum of the femur and of the tibia had grown over the implanted piece. The latter had become absorbed, but new bone was formed from the periosteum and the adjoining bones. The union between the new bone which had taken the place of the implanted piece and the old bone was so close that it was impossible to differentiate the tissues. Professor Kausch added that he had in four instances implanted sterilised bone from a dead body and other material in two instances, but that in no case was a good result obtained.

Dr. WILLEMS of Gent said that in hæmarthrosis of the knee-joint he had allowed the patients to move the joint and to walk immediately after the aspiration. By early movements atrophy of the joint was avoided. He had applied this method in 12 cases of hæmarthrosis and eight cases of acute hydrarthrosis. The results were very good, no complication happened, and the duration of treatment was considerably shortened. The patients were able to begin work on an average after eight days, the minimum being six, the maximum 16 days.

Medical Experiences at the Messina Disaster.

Dr. COLMERS of Heidelberg, the chief medical officer of the German expedition to Messina, gave a report of his experiences concerning the injuries produced by the earthquake. He said that the injuries were nearly all very severe, because, the disaster happening at night-time, only a very few had an opportunity to escape from the falling houses. The injured were nearly all found covered with timber, stones, and rubbish within the ruins, and as they had been lying there for several days some of them showed pressure sores and cellulitis leading to gangrene of the limbs. Dr. Colmers stated that dressing with Peruvian balsam gave good results. The compression of nerves by the ruins led in numerous instances to paresis. As to the varieties of fracture observed, fractures of the cranium were relatively rare, but fractures of the vertebral column, the pelvis, and the limbs were very frequent. It was remarkable that after slight injuries of the skull an alopecia sometimes developed.

THE RECENT FIGHTING IN CONSTANTINOPLE

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

SATURDAY, April 11/24th, 1909, the date of the victory of the Salonica "invaders" over the mutinied garrison of Constantinople, will be as memorable in the history of this city as July 11/24th, 1908, when the now deposed Sultan was reluctantly compelled to grant his subjects a Constitution and Parliamentary government.

Of the events which led up to the recent battle in the streets of the Turkish capital this is not the place to speak at any great length. Briefly the facts were as follows. On the preceding Tuesday week (April 13th) a large number of the troops and marines of the Constantinople garrison mutinied, imprisoned or bound their officers, and flocked to the historial open space close by the mosque of St. Sofia and the Chamber of Deputies. There they were joined by many *hodjas* and *mollahs*, and cried loudly for the Sheriat (the embodiment of the religious law of El Islam), for a change of Ministry, and for the downfall of the Committee of Union and Progress. For a whole day the business of the city was at a standstill; some fighting took place near the War Office between the "loyal" troops and the mutineers; the Minister of Justice and the deputy for Latakia were killed (the latter in mistake for the editor of one of the Committee's organs, the *Tannin*); several other persons were killed or wounded; and the offices of the paper just named, of another organ of the Committee (the *Shourai-Ummet*), and of the Committee itself were sacked by the mob. For the moment the religious reactionaries and mutinied soldiers seemed to have gained the day. Before evening the Ministry had been changed, more or less in accordance with their demands, the leaders of the Committee party were in hiding or in flight, the (late) Sultan had promised complete respect for the Sheriat and an amnesty for the mutineers, and the latter, towards 10 o'clock at night, began to flock back to their barracks in different parts of the town in a state of jubilation. During a great part of that night and the whole of the following day they showed their joy by discharging their rifles into the air, indiscriminately and continuously. The noise thus made was taken at first for that of serious fighting and created, naturally, considerable alarm. Fortunately, however, it was soon learnt that the shots were mere "feux de joie," and the alarm abated. Such firing, however, was by no means free from danger, and within 24 hours a large number of persons had been killed or wounded by stray bullet shots. The exact numbers are not known; one estimate put them at over 500 wounded and about a score killed; but it is thought that these figures are below, rather than above, the truth. The most dangerous place to be in during these wild

demonstrations was an upper window, and it was really safer to be in the street and among the demonstrators themselves, who at least made some effort to fire perpendicularly in the air.

After this outbreak there followed a period of ten days of suspense and expectation. During that time the supporters of the Committee rallied. An army was sent from Salonica to invade the capital, restore order, and punish the mutinied troops. The incidents of the Tuesday (April 13th) had undoubtedly been of complex origin. They were the expression, in part, of a widely-felt dissatisfaction at the dictatorial attitude of the Committee and of its supporters in the Chamber; in part, of an intense conservative feeling among the general Moslem population, who tend to regard the attempt to introduce reforms on Western lines into this country as contrary to their religion; but in great part they were also caused by the agents of reaction and supporters of the old Hamidian *régime*, and there seems to be little doubt that the gold of Yildiz played an important part in bringing about these demonstrations.

Between April 13th and 23rd the Salonica forces slowly gathered and concentrated at a short distance from the capital. On the afternoon of the 23rd they had reached the suburbs. At dawn on the 24th the invading army entered the town. The Pera division, consisting of (according to a rough reckoning) some 6000 infantry, a certain (not large) number of cavalry, some score or more of field guns, and mitrailleuses mounted on armoured automobiles, marched into the city by the Shishli-Pancaldi-Taxim-Pera road, and thus passed under the windows of my house, situated in the first-named suburb. It was a striking spectacle, this silent invasion of a great capital, in the early hours of a warm spring morning, by men evidently intent on business. It was at 4.45 A.M. that they entered the suburbs; at 5.25 A.M. the engagement began, and from then until 11 A.M. the firing of rifles, cannon, and machine guns continued uninterruptedly. At 7.30 I made my way to the large Military Academy at Pancaldi, some half-mile further in the town and the centre of much of the fighting, and offered my services to help attend the wounded, by that time beginning to be numerous. Some half-dozen colleagues were already there. Several of the cadets' dormitories were turned into hospital wards. The tramcars had been seized by the "invaders" and were converted into ambulance wagons, the stretchers being placed, longitudinally, across the backs of the seats of the open cars; later the same cars served to carry the dead. There was at the Academy a sufficient supply of dressings, antiseptics, and appliances for first aid. By degrees the wounded were transferred to the hospitals. Between 60 and 70 had passed through our hands before noon.

The majority of injuries were Mauser rifle wounds. In most instances the bullet had traversed the body or limb; in fact, in not a single case that came under my immediate care did the bullet remain in the body. I have since seen, however, in the hospitals cases where the bullet remained in the tissues or in one of the great cavities, and has had to be removed by operation or left in, according to circumstances. In the case of penetrating wounds, the wound of entrance was usually distinctly smaller than that of exit; but this was not invariably the case, and in more than one instance the difference in size between the two wounds was trifling; round neither was there, as a rule, much damage to the soft parts, and such wounds have since healed rapidly and well, even when the shot had passed through one of the cavities of the body. In one case the bullet had entered at the upper part of the left buttock, had traversed the whole length of the back muscles, and escaped in the region of the left shoulder. The man had been in a stooping, almost recumbent position at the moment of being struck. Several other patients were wounded in the back in the following circumstances. At the height of the engagement the mutineers raised the white flag and the invaders advanced over the open ground to receive their surrender, but on approaching the barracks a murderous fire was opened on them and they were compelled to retire hurriedly, leaving about a score of dead on the ground. It was rare in any of the cases of rifle wound to see much shattering of the bones or soft parts. In a few, however, compound fractures of the long bones of the arm or leg have since necessitated amputation. In one instance the patient had a compound fracture of the right radius and no less than six other bullet wounds in different parts of the body; he is now doing fairly well and it is hoped that he may recover. Cannon-shot injuries were, of course, much more extensive and serious; but such injuries were rarer among the wounded than among the dead. In bullet wounds hæmorrhage was usually insignificant in amount. Shock was well marked in many cases, and more or less present in all. Many of the men were already in a tired condition before the engagement began. It appears to be established now beyond doubt that the arrival of the army in the city was greatly hastened at the last moment, as otherwise very serious disorders (some say a general massacre) in Stamboul were inevitable. Consequently many men of the invading army had marched all night, from Makrikeui, a distance of some 15 miles or so, and it is stated that many of them had had little in the way of food for several hours before the engagement began. This is to some extent confirmed by the fact that a large number of the men already showed signs of exhaustion as they marched into town in the early dawn; and later, at the height of the engagement at the Military Academy, I saw many of them, when not employed in serving the guns, lie down and appear to fall asleep in the shade of the ammunition wagons, not 30 yards from where the cannon were being fired. In one instance a soldier of the invading army was brought into the Academy, uninjured in any way, but in a state of acute hysteria brought on by the nerve strain, the heat, and the deafening noise of the battle which was being actively carried on under our windows. It must be rare to see a case of this nature in the male subject, except in war-time. From the rapid examination that was alone possible in the circumstances I noted that the pupils were rather but not excessively dilated and equal; the pulse was rapid but fairly good; the patient was unconscious of his surroundings but sensitive to pain, and the reflexes were not abolished; he was crying out much as does a patient in the delirium of high fever. An hour later when I re-inquired as to his condition, I found his bed occupied by another, and learnt that he had quite recovered and left the building.

The circumstances in which these men received their first treatment were scarcely ideal, either for doctor or patient. The noise of the engagement, the scene of which may be said to have extended from the Military Academy itself (where it had first begun) for some three-quarters of a mile in a southerly direction, along the main tramway route leading to Taxim and Pera proper, was at times literally deafening. There was much rifle-firing in the near neighbourhood of the building; machine guns were being worked some distance away, but one battery of field guns was drawn up under our windows in the parade ground of the Academy, along the southern front of the building. From there they bombarded incessantly another large barracks—those of Tash-Kishla, one of the strongholds of the mutineers, situated beyond the further side of the parade-ground and some 400 to 500 yards distant. As the mutineers had no cannon there, or at any rate, did not use them in reply, it was possible to watch, with a fair degree of safety, from our windows the effect of the shot. It was in truth an absorbing spectacle. The shot used appears to have been both shrapnel and heavy shot; the former, at that range, exploded, not in the air, but at the moment of striking the building; the damage done was less than might have been anticipated, and the building, of stout stonework, resisted to the end, the walls still standing, though jagged and torn with holes in a hundred different places. The firing ceased at 11 A.M.; but the Tash-Kishla men still held out. Later in the afternoon, towards 5 P.M. (when I was once more at the Academy), the artillery, which had been temporarily withdrawn, took up again the position they had occupied in the morning, and for a time a fresh bombardment seemed inevitable, but shortly after the mutineers surrendered.

By that time the large majority of the wounded had been transferred to the Hamidieh and other hospitals in the neighbourhood. Between 60 and 70 in all had received first treatment in the Academy. The hospitals that received most of the wounded on the Pera side of the Golden Horn were the Hamidieh, the Gumush-Su, the Armenian Hospital of Sourp-Agop, and the French Hospital in Pera. The wounded in Stamboul were treated in hospitals situated on that side of the Golden Horn. It is extremely difficult to obtain definite figures for the total number of casualties, but the following estimate of a staff officer is perhaps as near the truth as it is possible to get at present; the figures are, at

pancreas incision was the normal proceeding, the drawback, however, being that a fistula sometimes was left. He showed a case where a big growth was present behind and connected with the stomach. It was a large cyst of the pancreas, but it was easily shelled out. The wound was plugged and healed within six weeks without leaving a fistula. On examination of the wall of the cyst numerous white nodules of the size of a pea were found, which proved to be sarcomatous. A year later pain began to be complained of, and then a small growth appeared in the scar and recurrence was obvious.

Operations on the Brain.

Professor VON BRAMANN of Halle described an Operation for Hydrocephalus. He trephined half a centimetre behind the coronal suture and brought the dura mater into view. He then introduced a short cannula through the commissure into the ventricle, the depth before this was reached being in children about three centimetres and in adult persons about from six to eight centimetres. When the fluid had run out the aperture in the commissure was somewhat dilated and the wound was closed. Professor von Bramann performed this operation in 22 cases, of which 13 were cases of growth with hydrocephalus, eight were cases of genuine hydrocephalus, and one was a case of epilepsy. The effect of the operation was that the fontanelle sank, the patient's mental state improved, and the contractures and the amaurosis became better. In one case it was ascertained by post-mortem examination that the opening was still patent after seven months.

Mobilisation of Joints.

Professor KLAPP of Berlin drew the attention of the Congress to the fact that tuberculosis of the hip-joint might, in certain circumstances, get well without any impairment of the function of the joint. In cases of gonorrhœal arthritis Bier's passive congestion gave excellent results, so that incision and drainage were often unnecessary. The results were best in the acute phlegmonous form, but even in more chronic cases success might eventually be obtained provided that the technical directions were observed. As to operations for restoring mobility to ankylosed joints, the best results were obtained in the elbow-joint. It was the aim of the operation to free the existing adhesions and to avoid the formation of fresh ones. For this purpose either cartilage, or muscles, or fascia, or tendons must be interposed between the epiphyses. Professor Klapp had recently devised a new method of mobilising joints which had become ankylosed after fractures. He removed the callus but spared the surface of the joint which was then united by nails with the diaphysis from which a small piece was previously removed by the saw. Sometimes the extirpation of the shrivelled capsule was advisable.

Professor PAYR said that the condition of the capsule was the most essential point in the mobilisation of joints. Forcible breaking down of adhesions produced new cicatrisations within the capsule owing to which the joint became still more ankylosed than before. He recommended in such cases the removal of the capsule, but the ligaments should be left. According to his experiments in animals the capsule might regenerate.

While speaking on the subject of fractures, Dr. THÖLE of Hanover said that he had seen in a patient who had fallen from a horse a separation between the base of the cranium and both upper jaws, so that the face could be moved in a sagittal direction.

Professor KAUSCH of Berlin mentioned that three years ago he had implanted a piece of bone eight centimetres long, freed from periosteum, at the place of the knee-joint after resection for malignant growth. The femur was later amputated for recurrence, and on examination it was found that the periosteum of the femur and of the tibia had grown over the implanted piece. The latter had become absorbed, but new bone was formed from the periosteum and the adjoining bones. The union between the new bone which had taken the place of the implanted piece and the old bone was so close that it was impossible to differentiate the tissues. Professor Kausch added that he had in four instances implanted sterilised bone from a dead body and other material in two instances, but that in no case was a good result obtained.

Dr. WILLEMS of Gent said that in hæmarthrosis of the knee-joint he had allowed the patients to move the joint and to walk immediately after the aspiration. By early movements atrophy of the joint was avoided. He had applied this method in 12 cases of hæmarthrosis and eight cases of acute hydrarthrosis. The results were very good, no complication happened, and the duration of treatment was considerably shortened. The patients were able to begin work on an average after eight days, the minimum being six, the maximum 16 days.

Medical Experiences at the Messina Disaster.

Dr. COLMERS of Heidelberg, the chief medical officer of the German expedition to Messina, gave a report of his experiences concerning the injuries produced by the earthquake. He said that the injuries were nearly all very severe, because, the disaster happening at night-time, only a very few had an opportunity to escape from the falling houses. The injured were nearly all found covered with timber, stones, and rubbish within the ruins, and as they had been lying there for several days some of them showed pressure sores and cellulitis leading to gangrene of the limbs. Dr. Colmers stated that dressing with Peruvian balsam gave good results. The compression of nerves by the ruins led in numerous instances to paresis. As to the varieties of fracture observed, fractures of the cranium were relatively rare, but fractures of the vertebral column, the pelvis, and the limbs were very frequent. It was remarkable that after slight injuries of the skull an alopecia sometimes developed.

THE RECENT FIGHTING IN CONSTANTINOPLE

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

SATURDAY, April 11/24th, 1909, the date of the victory of the Salonica "invaders" over the mutinied garrison of Constantinople, will be as memorable in the history of this city as July 11/24th, 1908, when the now deposed Sultan was reluctantly compelled to grant his subjects a Constitution and Parliamentary government.

Of the events which led up to the recent battle in the streets of the Turkish capital this is not the place to speak at any great length. Briefly the facts were as follows. On the preceding Tuesday week (April 13th) a large number of the troops and marines of the Constantinople garrison mutinied, imprisoned or bound their officers, and flocked to the historical open space close by the mosque of St. Sofia and the Chamber of Deputies. There they were joined by many *hodjas* and *mollahs*, and cried loudly for the Sheriat (the embodiment of the religious law of El Islam), for a change of Ministry, and for the downfall of the Committee of Union and Progress. For a whole day the business of the city was at a standstill; some fighting took place near the War Office between the "loyal" troops and the mutineers; the Minister of Justice and the deputy for Latakia were killed (the latter in mistake for the editor of one of the Committee's organs, the *Tannin*); several other persons were killed or wounded; and the offices of the paper just named, of another organ of the Committee (the *Shourai-Ummet*), and of the Committee itself were sacked by the mob. For the moment the religious reactionaries and mutinied soldiers seemed to have gained the day. Before evening the Ministry had been changed, more or less in accordance with their demands, the leaders of the Committee party were in hiding or in flight, the (late) Sultan had promised complete respect for the Sheriat and an amnesty for the mutineers, and the latter, towards 10 o'clock at night, began to flock back to their barracks in different parts of the town in a state of jubilation. During a great part of that night and the whole of the following day they showed their joy by discharging their rifles into the air, indiscriminately and continuously. The noise thus made was taken at first for that of serious fighting and created, naturally, considerable alarm. Fortunately, however, it was soon learnt that the shots were mere "feux de joie," and the alarm abated. Such firing, however, was by no means free from danger, and within 24 hours a large number of persons had been killed or wounded by stray bullet shots. The exact numbers are not known; one estimate put them at over 500 wounded and about a score killed; but it is thought that these figures are below, rather than above, the truth. The most dangerous place to be in during these wild

demonstrations was an upper window, and it was really safer to be in the street and among the demonstrators themselves, who at least made some effort to fire perpendicularly in the air.

After this outbreak there followed a period of ten days of suspense and expectation. During that time the supporters of the Committee rallied. An army was sent from Salonica to invade the capital, restore order, and punish the mutinied troops. The incidents of the Tuesday (April 13th) had undoubtedly been of complex origin. They were the expression, in part, of a widely-felt dissatisfaction at the dictatorial attitude of the Committee and of its supporters in the Chamber; in part, of an intense conservative feeling among the general Moslem population, who tend to regard the attempt to introduce reforms on Western lines into this country as contrary to their religion; but in great part they were also caused by the agents of reaction and supporters of the old Hamidian *régime*, and there seems to be little doubt that the gold of Yildiz played an important part in bringing about these demonstrations.

Between April 13th and 23rd the Salonica forces slowly gathered and concentrated at a short distance from the capital. On the afternoon of the 23rd they had reached the suburbs. At dawn on the 24th the invading army entered the town. The Pera division, consisting of (according to a rough reckoning) some 6000 infantry, a certain (not large) number of cavalry, some score or more of field guns, and mitrailleuses mounted on armoured automobiles, marched into the city by the Shishli-Pancaldi-Taxim-Pera road, and thus passed under the windows of my house, situated in the first-named suburb. It was a striking spectacle, this silent invasion of a great capital, in the early hours of a warm spring morning, by men evidently intent on business. It was at 4.45 A.M. that they entered the suburbs; at 5.25 A.M. the engagement began, and from then until 11 A.M. the firing of rifles, cannon, and machine guns continued uninterruptedly. At 7.30 I made my way to the large Military Academy at Pancaldi, some half-mile further in the town and the centre of much of the fighting, and offered my services to help attend the wounded, by that time beginning to be numerous. Some half-dozen colleagues were already there. Several of the cadets' dormitories were turned into hospital wards. The tramcars had been seized by the "invaders" and were converted into ambulance wagons, the stretchers being placed, longitudinally, across the backs of the seats of the open cars; later the same cars served to carry the dead. There was at the Academy a sufficient supply of dressings, antiseptics, and appliances for first aid. By degrees the wounded were transferred to the hospitals. Between 60 and 70 had passed through our hands before noon.

The majority of injuries were Mauser rifle wounds. In most instances the bullet had traversed the body or limb; in fact, in not a single case that came under my immediate care did the bullet remain in the body. I have since seen, however, in the hospitals cases where the bullet remained in the tissues or in one of the great cavities, and has had to be removed by operation or left in, according to circumstances. In the case of penetrating wounds, the wound of entrance was usually distinctly smaller than that of exit; but this was not invariably the case, and in more than one instance the difference in size between the two wounds was trifling; round neither was there, as a rule, much damage to the soft parts, and such wounds have since healed rapidly and well, even when the shot had passed through one of the cavities of the body. In one case the bullet had entered at the upper part of the left buttock, had traversed the whole length of the back muscles, and escaped in the region of the left shoulder. The man had been in a stooping, almost recumbent position at the moment of being struck. Several other patients were wounded in the back in the following circumstances. At the height of the engagement the mutineers raised the white flag and the invaders advanced over the open ground to receive their surrender, but on approaching the barracks a murderous fire was opened on them and they were compelled to retire hurriedly, leaving about a score of dead on the ground. It was rare in any of the cases of rifle wound to see much shattering of the bones or soft parts. In a few, however, compound fractures of the long bones of the arm or leg have since necessitated amputation. In one instance the patient had a compound fracture of the right radius and no less than six other bullet wounds in different parts of the body; he is now doing fairly well and it is hoped that he may recover. Cannon-shot injuries were, of course, much more extensive and serious; but such injuries were rarer among the wounded than among the dead. In bullet wounds hæmorrhage was usually insignificant in amount. Shock was well marked in many cases, and more or less present in all. Many of the men were already in a tired condition before the engagement began. It appears to be established now beyond doubt that the arrival of the army in the city was greatly hastened at the last moment, as otherwise very serious disorders (some say a general massacre) in Stamboul were inevitable. Consequently many men of the invading army had marched all night, from Makrikeui, a distance of some 15 miles or so, and it is stated that many of them had had little in the way of food for several hours before the engagement began. This is to some extent confirmed by the fact that a large number of the men already showed signs of exhaustion as they marched into town in the early dawn; and later, at the height of the engagement at the Military Academy, I saw many of them, when not employed in serving the guns, lie down and appear to fall asleep in the shade of the ammunition wagons, not 30 yards from where the cannon were being fired. In one instance a soldier of the invading army was brought into the Academy, uninjured in any way, but in a state of acute hysteria brought on by the nerve strain, the heat, and the deafening noise of the battle which was being actively carried on under our windows. It must be rare to see a case of this nature in the male subject, except in war-time. From the rapid examination that was alone possible in the circumstances I noted that the pupils were rather but not excessively dilated and equal; the pulse was rapid but fairly good; the patient was unconscious of his surroundings but sensitive to pain, and the reflexes were not abolished; he was crying out much as does a patient in the delirium of high fever. An hour later when I re-inquired as to his condition, I found his bed occupied by another, and learnt that he had quite recovered and left the building.

The circumstances in which these men received their first treatment were scarcely ideal, either for doctor or patient. The noise of the engagement, the scene of which may be said to have extended from the Military Academy itself (where it had first begun) for some three-quarters of a mile in a southerly direction, along the main tramway route leading to Taxim and Pera proper, was at times literally deafening. There was much rifle-firing in the near neighbourhood of the building; machine guns were being worked some distance away, but one battery of field guns was drawn up under our windows in the parade ground of the Academy, along the southern front of the building. From there they bombarded incessantly another large barracks—those of Tash-Kishla, one of the strongholds of the mutineers, situated beyond the further side of the parade-ground and some 400 to 500 yards distant. As the mutineers had no cannon there, or at any rate, did not use them in reply, it was possible to watch, with a fair degree of safety, from our windows the effect of the shot. It was in truth an absorbing spectacle. The shot used appears to have been both shrapnel and heavy shot; the former, at that range, exploded, not in the air, but at the moment of striking the building; the damage done was less than might have been anticipated, and the building, of stout stonework, resisted to the end, the walls still standing, though jagged and torn with holes in a hundred different places. The firing ceased at 11 A.M.; but the Tash-Kishla men still held out. Later in the afternoon, towards 5 P.M. (when I was once more at the Academy), the artillery, which had been temporarily withdrawn, took up again the position they had occupied in the morning, and for a time a fresh bombardment seemed inevitable, but shortly after the mutineers surrendered.

By that time the large majority of the wounded had been transferred to the Hamidieh and other hospitals in the neighbourhood. Between 60 and 70 in all had received first treatment in the Academy. The hospitals that received most of the wounded on the Pera side of the Golden Horn were the Hamidieh, the Gumush-Su, the Armenian Hospital of Sourp-Agop, and the French Hospital in Pera. The wounded in Stamboul were treated in hospitals situated on that side of the Golden Horn. It is extremely difficult to obtain definite figures for the total number of casualties, but the following estimate of a staff officer is perhaps as near the truth as it is possible to get at present; the figures are, at

any rate, certainly not above the truth. On the side of the invading army: at Pera, 53 dead and 65 wounded; and at Stamboul, 44 killed and 95 wounded. On the side of the mutineers: at Pera, 240 killed and 475 wounded; and at Stamboul, 57 killed and 110 wounded. This would make a total of 97 killed and 160 wounded on the side of the invaders, and 297 killed and 585 wounded on that of the mutineers, or a grand total of 394 killed and 745 wounded. That these figures are not above, but below (and in the case of the wounded very considerably below) the truth is shown by the fact that 67 wounded, all belonging to the invading army, were admitted to the Hamidieh Hospital alone.

This excellent hospital, situated at Shishli (not a hundred yards from my house), was founded and maintained by the late Sultan, whose now unhonoured name it still bears. A description of it appeared a year or two ago in the pages of THE LANCET. It is primarily intended for children. The sudden admission of this large number of wounded men naturally strained its resources, but the call was well met, the army furnishing an abundant supply of surgeons, so that no outside help was needed. The ordinary nursing staff was, however, overtaxed, and the voluntary services of several amateur lady nurses have since been gladly accepted. The hospital itself did not escape injury. At about 6 A.M. a shell, apparently coming from the mutineers at Taxim, struck one of the pavilions, crashed through a window, and shattered the plaster and stone work of an inner wall. Four women attendants were seated in this room, which is not more than some 15 by 10 feet in dimensions, and the shell in its passage blew to pieces the head of one of them without injuring any of the other three. The shattered window and shutters, the battered stone work, and the brain- and blood-bespattered ceiling and walls are still grim to look at. Many other shells exploded in the near neighbourhood, while others buried themselves harmlessly in the earth in the fields and valleys that lie between Shishli and Yildiz.

The city is still, technically speaking, in a "state of siege," but the daily life of the multitude goes on much the same as before, and the outward signs of a military occupation and rule are daily becoming less. A word of unfeigned admiration must be added for the behaviour of the invading army from the time they entered the city. For the past fortnight the city has been entirely in their hands, yet not a single instance has been heard of in which they abused their power, and no citizen has had to complain of robbery, insult, or injury of any kind. In all justice, however, the same or a greater meed of admiration must be given to their late enemy, the "mutineers," who for 11 days had the city no less absolutely at their mercy and behaved equally well to civilians; and this in spite of the fact that they were without officers, were, from a military point of view, entirely out of hand, and (if all reports be true) had their pockets liberally lined with gold from Yildiz.

Constantinople, May 6th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

A Mace for the University of Liverpool: Dr. Richard Caton's Commemorative Gift.

SHORTLY before completing his term of office as Lord Mayor of Liverpool, Dr. Richard Caton announced his intention of presenting a mace to the University for use on occasions of public ceremony. The mace has now been received from the makers (Messrs. Elkington and Co.) and was used for the first time at the installation of the new Chancellor on May 8th. It is composed entirely of silver, the head and crown being gilded and enamelled, the stem is oxidised, while the bosses and foot are polished and lacquered. The crown, with orb and cross, and the Royal arms beneath the crown, are symbols of the Royal authority delegated to the University. The head of the mace beneath the crown is divided into four fields or spaces by the following reliefs of Greek divinities: (1) Athene, symbolising the faculties of arts and science; (2) Poseidon, suggesting maritime engineering and the relation of the University to sea-borne commerce; (3) Themis, referring to the faculty of law; and (4) Asklepios, referring to the faculty of medicine. The four fields or spaces thus separated contain enamels of the King's initials and the shields of England, Scotland, Ireland, and Wales; the arms and supporters of the county palatine of Lancaster; the arms and supporters of the city of Liverpool; and the arms of the University of Liverpool. On the head of the mace is a Latin inscription stating that the mace is given to the University of Liverpool by the Lord Mayor as a testimony of the love of the citizens for humane and scientific studies. At the base of the head of the mace is a fillet composed of corn sheaves, suggestive of the Mersey and the sea. The upper part of the mace is connected with the stem by four heads of Hermes, the transmitter of the teachings of the gods, and the patron of the sports of the gymnasium. The spiral band which is seen on the stem of the mace is engraved with the rose of Lancaster, and the bosses with the "planta genesta," the cognisance of King John, the founder of Liverpool. The base contains an inlet coin of King Edward VII., with the date 1908. The mace was presented to the council of the University at its meeting last week.

Installation of the New Chancellor of the University of Liverpool: Distinguished Recipients of Honorary Degrees.

Saturday, May 8th, was an important day in connexion with the University of Liverpool. Two interesting functions took place then in St. George's Hall. The first was the installation of the Earl of Derby as Chancellor of the University in succession to his father, the late Earl of Derby; and the second was the conferment of honorary degrees upon Mr. Arthur Balfour, Lord Roberts, Lord Crewe, Lord Charles Beresford, Mr. Augustine Birrell, Sir Donald MacAlister, Sir John Brunner, Signor Guglielmo Marconi, Dr. Richard Caton, Mr. Robert Gladstone, Professor Paul Vinogradoff, Mr. Francis Darwin, Professor Edward Meyer, Dr. John Lancelot Todd, and the Hon. Charles Algernon Parsons. Academic and official dress were generally worn, and the scene in the hall was strikingly brilliant. The Chancellor and the distinguished honorary graduates were afterwards entertained at luncheon by the Lord Mayor at the town hall, when interesting speeches were delivered by Mr. Balfour, Lord Crewe, Lord Charles Beresford, Mr. Birrell, and others.

May 11th.

WALES.

(FROM OUR OWN CORRESPONDENTS.)

Workhouse Medical Officers.

THE Merthyr board of guardians has decided to appoint a resident medical officer for the union workhouse at a salary of £200 per annum with yearly increases of £20 up to £300. The manner in which the sick inmates of the Merthyr workhouse have been looked after has frequently received commendation at the hands of the Poor-law inspectors of the Local Government Board.—The salary of Dr. R. J. Lloyd Edwards, the medical officer of the Swansea workhouse, has been increased from £500 to £550 per annum. Dr. Edwards is not a resident officer, but holds the positions of district medical officer and public vaccinator.

A Second Hospital for the Rhondda Valleys.

Although the population of the Rhondda Valleys is well over 120,000 persons, there is only one cottage hospital in the whole district. It is situated at Porth at the junction of the two valleys and is therefore a considerable distance from the upper parts of both valleys. The Porth Hospital was founded in 1895 mainly through the efforts of the late Mr. Henry Naunton Davies, M.R.C.S., who was the first to receive the gold medal for distinguished merit, founded in 1877 by the British Medical Association. Quite appropriately the hospital is situated only a few hundred yards above the Tynewydd Colliery, where in April, 1877, a boy and four men were imprisoned without light or food for ten days, and in connexion with whose rescue Mr. Davies and other surgeons displayed conspicuous courage. During many years past attempts have been made, hitherto unsuccessfully, to establish hospitals in other parts of the valleys. There now appears to be some likelihood of a project for the erection of an institution near Pentre meeting with a better fate than others have done. Pentre and Ystrad

are two populous districts some five miles from Porth, and a suitable site in either would serve the needs of a very large area. A committee, consisting of two workmen and one official from each local colliery, has been formed to choose a site and to consider the best means of carrying out the scheme.

Caerphilly Isolation Hospital.

The colliery districts in South Wales are at last being well supplied with isolation hospitals. Almost the first of any pretensions was built by the Rhondda urban district council in 1899, and very shortly afterwards the neighbouring district of Pontypridd was provided with an excellent institution within a few miles of the town. The Aberdare urban district council has decided to erect suitable buildings as soon as plans and other preliminaries are completed, and on April 27th last a well-designed hospital was opened at Caerphilly, an urban district with a population of some 25,000 persons situated on the eastern border of Glamorganshire. The site, which is about two and a half acres in extent, is on the side of the mountain nearly a mile from the town. There are three ward pavilions, with accommodation respectively for ten, eight, and four patients. They are designed somewhat on the Local Government Board plan, with a nurses' duty room dividing two wards and sanitary annexes at each end. In the two largest pavilions there is a convalescent room on the second storey in the middle of the block. The administrative block has 11 bedrooms, so that it would not need enlargement in the event of more pavilions being erected. The remaining buildings include a laundry, stables, mortuary, and discharging rooms. The cost of the undertaking was approximately £10,000, or about £450 per bed.

Deficient Water-supplies in Carmarthenshire Schools.

In the report which was presented to the Carmarthenshire education committee by Mr. L. M. Bowen-Jones upon the 23 schools in which he carried out the medical inspection of the school children in 1908, nothing is more noticeable than the large number of schools which are badly supplied with water. In ten of them there is said to be no supply at all, while connected with two others there are polluted wells. In two schools water is obtained from spouts some yards distant, and in one from a dip-well 150 yards away which is liable to pollution by cattle. The standard of cleanliness must obviously be a low one in these schools.

May 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Glasgow Medical Faculty and the General Medical Council.

Dr. David N. Knox has been elected the representative on the General Medical Council of the Glasgow Faculty of Physicians and Surgeons in succession to the late Dr. Lindsay Steven.

Partick and District Medical Society, Glasgow.

A highly successful session of this newly formed society was brought to a close on April 29th, when the annual business meeting was held, Dr. Arthur Mechan, the retiring President, being in the chair. Practically all the medical men of the district have now become members of the society, and during the session many subjects of considerable interest to the medical profession have been discussed. Among such subjects may be mentioned: The Notification of Phthisis, the Relation of Practitioners to District Nursing Associations, and the Conditions and Remuneration in Contract Practice. In the case of club practice the members have bound themselves to accept not less than the minimum annual fee approved of by the society, i.e., 4*s.* per member. The following office-bearers were elected for the ensuing session:—President, Dr. J. Gibson Graham; Vice-Presidents, Dr. W. Snodgrass and Dr. John Morton; Secretary, Dr. A. W. M. Sutherland; Recording Secretary, Dr. J. King Patrick; Treasurer, Dr. John Gracie; Council, Dr. D. Westwood, Dr. W. A. Caskie, Dr. D. J. Mackintosh, M.V.O., Dr. J. Scott, Dr. J. Hunter, Dr. W. S. Paterson, Dr. John Taylor, and Dr. Arthur Mechan.

Improved Public Health in Renfrewshire.

The death-rate for last year in Renfrewshire was 11·777, and this is stated to be the lowest on record in that district. The infantile death-rate in the lower ward was 62 per 1000 children born and is phenomenally low, the lowest death-rate hitherto recorded being 73. The most notable circumstance during the year probably is that for the first time there has been no prosecution under the Public Health Act, and that, too, although the standard of sanitation in the county, instead of being lowered, has steadily, if insensibly, been raised since the inception of the Public Health Department in 1891.

School Nurse for Dunfermline.

The medical inspection of school children has already been carried out in all the larger towns, and now the smaller centres are turning their attention to the matter. Dunfermline, however, has gone one better, and has appointed a school nurse in connexion with the medical inspection of children at a salary of £80 per year. Dunfermline school board is in the fortunate position of having behind it the Carnegie trustees, who have offered to pay the nurse's salary.

Death of Dr. C. M. Macrae.

By the death of Dr. Charles Mackenzie Macrae of Stornoway, Lewis has lost one of its oldest inhabitants, and one who did much for the welfare of the island. Dr. Macrae, who was the son of the Rev. Mr. Macrae, for many years parish minister of Barvas, Lewis, died in his residence at Stornoway last week at the advanced age of 91. Three years ago, on account of old age, he resigned the post of medical officer for the Stornoway parish, which he had filled for a period of about 60 years. In 1895 he was presented by the inhabitants, and by Lewis people all over the world, with an illuminated address and a purse containing £200, together with a tea and coffee service for Mrs. Macrae, in recognition of his 50 years' professional services in the island.

The Municipalisation of the Sidlaw Sanatorium.

The opposition to the municipalisation of the Sidlaw Sanatorium seems to have met with results. A requisition was sent some fortnight ago by three of the town councillors to the Lord Provost, requesting him to call a special meeting of the council to consider a resolution and four alternative proposals. The resolution was as follows: "To take a plebiscite of the electors 'for' or 'against' the whole scheme, and communicate the result to the Local Government Board for its guidance." The alternative proposals were as follows: (1) To take a plebiscite, and in the event of such plebiscite being against the scheme to abandon the scheme in the meantime and to ask the sanatorium trustees and directors to concur in cancelling the agreement; (2) to abandon the scheme in the meantime; (3) with the concurrence of the sanatorium trustees and directors to hold the agreement as provisional only pending the next municipal election; (4) to take any other action that might be thought proper, including the rescinding or varying of any former resolution of the council. The Lord Provost replied that the resolution and the first, third, and fourth proposals were incompetent, and ultimately issued a summons to the members of the council to attend a special meeting of the corporation to be held in the town-hall, Dundee, on May 3rd, for the purpose of considering and disposing of ex-Bailie Mechan's motion "That the scheme for the municipalisation of the Sidlaw Sanatorium should be abandoned, and that the council accordingly ask the sanatorium trustees and directors to concur in cancelling the agreement made." The meeting was duly held on May 3rd, when the resolution to abandon the scheme was adopted by 18 votes to 9. A subsequent motion that the sanatorium should be taken over as an institution containing 40 beds, and *quoad ultra* rescind all the previous resolutions regarding the matter, was also defeated. Notice of a motion has been given for the next meeting of the public health committee to the effect that a subcommittee be appointed to consider and report as to a scheme under which the medical officer would be empowered to select a certain number of patients suitable for treatment in the sanatorium. The desire is that the system should receive a trial. The cost of the patients so sent would be met out of the public health rates. At a further meeting of the town council held on May 5th a communication was received from the directors of the sanatorium drawing attention to the trouble and expense to which they had been put in connexion with the negotiations which had been instigated by the council, and suggesting that they might get some compensation. The flow of subscriptions had to a large extent been diverted, presumably

because the subscribers thought it no longer necessary to subscribe to an institution that was soon to be supported from the rates. With regard to the foregoing communication, the council resolved by a majority that the directors should formulate their claim, but that meantime they could admit no liability.

May 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Victoria Baths, Kingstown.

At the meeting of the Kingstown urban council which was held on May 6th the subject of the Royal Victoria Baths came up for discussion. The time was well chosen, summer making Kingstown one of the most attractive of Irish resorts to both tourist and invalid, as well as to the prosperous Dublin citizen who can afford a suburban residence therein. A loan of £280 (which had been regarded with favour at a former meeting) for the building of a caretaker's house at the baths received determined opposition from some leading members. One of the members strongly expressed the desirability of having a resident caretaker in permanent charge of the baths—a view with which most sanitarians will be disposed to agree. He pointed out the manifest absurdity of leaving a public building derelict on which a sum of £12,000 had been originally expended, with the mistaken object of economising a trifling amount. As the Victoria Baths form one of the specially important assets of the sanitary life of Dublin as well as of Kingstown, and will surely be used this season—as they have been in the past—by very many tourists and not a few invalids, it can hardly be questioned that the presence of a resident caretaker would be a very desirable acquisition.

Mercer's Hospital.

At the monthly meeting of the board of governors of Mercer's Hospital on May 4th the registrar reported that the overdraft due to the National Bank on May 1st was £1777 9*s.* 4*d.* It has been decided to form a ladies' linen guild in connexion with the hospital, and a copy of the rules was read and approved, after which it was unanimously decided to ask Mrs. Arthur Courtenay to become the first president. The lady superintendent has taken the opportunity afforded by the publication of the report of the monthly meeting to remind "the many patients who have been so successfully treated in this hospital that she is collecting funds in aid of her stall at the Mercer's and Orthopædic Hospitals' Bazaar. She will feel grateful for the smallest assistance, and she hopes that they will avail themselves of this opportunity of testifying their gratitude to her and the hospital staff." As one of the oldest of the now numerous institutions of its class in the Irish metropolis, Mercer's has a special claim on the sympathy and support of the Irish public, both lay and professional.

Royal College of Surgeons in Ireland.

Meetings of the College will be held on June 5th at 1 P.M. to receive the annual report of the Council, and on June 7th at the same hour to elect a president, vice-president, council, and secretary of the College for the ensuing year. The secretary of the College has given notice that Fellows who may desire to have their names printed on the list of candidates for office should signify their wish by letter to the Registrar, at the College, on or before Tuesday, May 25th, and that no candidate is eligible unless his application is received within the date specified.

Tuberculosis in Cows in Holywood, Co. Down.

Mr. J. Gregg, M.R.C.V.S., has made a report to the urban council of Holywood in reference to an inspection made by him of the cows in the urban district under the jurisdiction of the council. He tested 57 cows with tuberculin in order to help the owners to obtain the most desirable stock, to confirm his clinical diagnosis, and to make subsequent inspection more easy and rational by grading the animals. There can be no question that the owners of cows in this district have acted wisely in showing how the Dairies and Cowsheds Order can be carried out.

Armagh Asylum.

From the report for the year 1908 it appears that the persons under treatment for the year numbered 614. Financially, the gross expenditure for the year was £12,853 7*s.* 11*d.*, a sum larger by £326 than the previous year. The total average cost of patients was £28 12*s.*, and the net average cost, making all deductions, amounted to £21 12*s.* 7*d.*, which is less by 18*s.* 2*d.* than the previous year.

The Proposed Statue to Lord Kelvin.

A dispute having arisen as to whether the proposed statue to Lord Kelvin, who was born in Belfast, should be placed in the City Hill grounds or at the University, the Lord Mayor of the city proposes to leave the matter for the decision of the subscribers, to which the Corporate Body of Queen's College, Belfast, has agreed.

May 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Water Purification in the Field.

AT a recent meeting of the Society of Military Surgery an important discussion took place on the above subject. Sterilisation by ozone is not a convenient method, for it may require delicate apparatus, which is also bulky and difficult of transport. M. Romary said that it must be remembered that it was possible to produce ozone by chemical processes, especially by the decomposition of alkaline persulphates. He thought that these salts might be distributed in flasks of a certain definite capacity, or still better in the form of compressed tablets. Another method which seems likely to give good results is sterilisation by the ultra-violet rays, produced by a quartz mercury vapour lamp. This method has been already described at the Academy of Sciences by M. Courmont and M. Nogier.

Cerebro-Spinal Meningitis.

I have already referred to this matter in the pages of THE LANCET as being one which for some time has assumed great importance in France. At a meeting of the Academy of Medicine held on April 27th M. Vaillaire, director of the school at Val de Grâce, made an important communication dealing with the subject. He showed the steady progress of the disease in France since the year 1904. In that year there were 33 cases notified, in 1908 there were 120, and for the first three months of 1909 the number was 139. The epidemic, which is now on the decline, has made two things perfectly plain: the one is that the disease is extremely contagious and the other that the use of anti-meningococcic serum is of great value. The epidemic in the garrison at Evreux, which M. Vaillaire studied with particular care, showed that the contagion spread from one soldier to another when they occupied contiguous beds in the same room. Some reservists who had been in barracks at Evreux and who had been sent home when the epidemic broke out carried the infection with them even if they showed no signs of the disease themselves. One of them, who was quite well, infected his wife who died; another infected four other persons, of whom two died. Examination of the troops in barracks showed that in 19 per cent. of them the meningococcus was present in the naso-pharyngeal mucous membrane. Of 24 cases treated otherwise than by serotherapy 16 died, and of the same number of cases treated with the serum only four died, the mortality in the one case being 66·6 per cent. and in the other 16·6 per cent. The earlier that the serum is administered the better are the results and therefore an early diagnosis is of much importance.

Suture of a Wound of the Lung.

At a meeting of the Society of Surgery held on April 29th M. Lejars showed a patient, a young woman, who had received a stab in the præcordial region. At the moment of her admission to hospital she was practically moribund. There was evidence of a large pleural effusion but it was impossible to be certain whether the lung or the heart had been wounded. M. Lejars turned up a large thoracic flap and found the left pleural cavity full of blood. After the fluid blood and the clots had been removed a wound about 1½ centimetres long was discovered on the anterior aspect of the middle part of the left lung. The portion of lung involved was pulled up into a cone, around the base of which a strong ligature was placed. The pulmonary hæmorrhage being thus stopped the heart was next examined.

There was a slit in the pericardium which was also full of blood. But on enlarging the wound and on clearing out the pericardium the heart was found to be uninjured. The pericardium and the pleura were sutured, as was the thoracic flap, and no drainage was employed. The patient recovered without any complications. M. Lejars said that, in his opinion, if he had employed expectant treatment the woman must have died.

The Posterity of General Paralytics.

At a meeting of the Academy of Medicine held on April 27th M. Gilbert Ballet read a paper on the posterity of general paralytics from the point of view of nervous defects. The hereditary nature of general paralysis is, according to him, not at all definitely established. General paralysis is only a nervous disease because of its place of incidence and not in its nature. As a fact, he said, it is syphilis which is the real causative agent. The posterity of a general paralytic will carry in themselves the taint of hereditary syphilis, but whatever be the nervous affection from which they suffer it is never fatal. Of 50 descendants of general paralytics studied by M. Ballet there were only two epileptics, three who were "nervous"—i.e., emotional and impressionable—and two cases of *folie de doute*.

Emigrants and Trachoma in Paris.

M. Chantemesse and M. Valude have ascertained recently that foci of trachoma are in a fair way to be established in Paris owing to the presence of certain foreign emigrants on their way to America. Figures from the clinique of the Quinze Vingt show the frequency of the affection in certain districts of Paris. Of 289 cases that occurred in 1907 and 1908, 166 came from three contiguous districts where emigrants put up on their arrival in the country, and the greater part of these cases—namely, 147—were those of the original inhabitants of the district. In the 4th arrondissement there is a hotel at which a large number of Russian and Polish emigrants put up, and this building is specially infected with trachoma. Much the same state of things exists in the 11th arrondissement, where there are two hotels which are always full of emigrants coming from Palestine and Egypt. It is, of course, well known that in certain portions of the above-mentioned countries granular ophthalmia is endemic. The spread of cases of trachoma in the districts adjoining those in which such emigrants stay is a proof of the risks which these people afford to the population of Paris.

Was Napoleon Ill at Waterloo?

When Napoleon was at Waterloo was he in full possession of his faculties—was he, that is to say, in a good state of health both mental and physical? Such are the questions which Dr. Cabanés examined in a paper which was read before the Medico-Historical Society a short time ago, was later published with additions as an article in the *Revue* of April 15th, and which has just appeared in book form under the title of "Indiscrétions de l'Histoire" (6me serie, Albin Michel, Paris). The Emperor might have been ill on the day of Waterloo; it is, I believe, a fact that at the time of the battle he was suffering from a very acute attack of hæmorrhoids. Dr. Cabanés adduces a mass of evidence in support of this statement, but thinks that this complaint, painful as no doubt it was, would not altogether have deprived the great commander of the freedom of mental action so necessary in the circumstances. As in many other historical situations, Dr. Cabanés agrees that the pathological factor must be taken into account, but Napoleon's health was not the principal factor in the defeat. It is possible that it was due mainly to meteorological conditions. A heavy and persistent rain had so soaked the ground that it was impossible for the artillery to manœuvre. The commencement of the battle was, therefore, delayed for some hours and its result was thereby rendered very doubtful. Here, then, was an unfortunate circumstance, but one to which at another time Napoleon would have easily risen superior. It was not so much the physical or intellectual powers of Napoleon which were lowered as his energy and his lightning-like faculty for decision; for some years previously he had suffered from attacks of drowsiness, accompanied by bodily and mental langour, which had not escaped the observation of those who noticed him carefully. There, says Dr. Cabanés, we have a condition which would facilitate the fatal issue.

May 11th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

School Nurses.

THE municipal authorities of Charlottenburg, a suburb of Berlin of about 250,000 inhabitants, which is in the forefront of hygienic and educational progress, have decided recently to appoint more nurses to the municipal school, as the experiment made with one nurse working in the municipal school has proved entirely satisfactory. The nurses will have the following duties: to call on the parents and induce them to act upon the advice of the school medical officers; to accompany the children on their visits to medical practitioners when the parents are unable to do so; to look after their spectacles, bandages, and so forth. If the children come to the school in a dirty condition and are underfed the nurse must inquire into the social condition of the parents and eventually make a report to the municipal authority. She has to impress upon the children's parents in their homes the importance of cleanliness and fresh air. The action of the Charlottenburg town council might well be followed in larger cities.

The Care of Cripples.

At the recent Congress for Orthopædic Surgery in Berlin the care of the cripple was the principal subject of discussion. Dr. Biesalski of Berlin presented a report of a census of the cripples in Germany carried out with the aid of school teachers, police, and medical men. 71,783 cripples were registered, making 1·48 in each 1000 inhabitants. About 562 in each 1000 cripples (56·2 per cent.) need care in special homes, 127 per 1000 have applied for such accommodation, and there are only sufficient beds in the homes for 62 for each 1000. At least 10,000 beds are needed in Germany for the indigent cripples. Dr. Rosenfeld of Nürnberg regretted that the German law does not oblige the municipal authorities to care for the cripples as it does for the blind and deaf mutes. Dr. Wittek of Gran stated that in this branch of medicine quackery did much damage and hindered the work of competent orthopædic specialists. Dr. Aberle of Vienna reported that in Austria the State cared only for cripples until the fourteenth year of their age. In the United States the care for cripples, according to a report of Dr. Lovett of Boston, was nearly exclusively entrusted to charitable institutions. Only three of the State public hospitals existed for their reception. Professor Weliamoff of St. Petersburg said that he had instituted a workshop where the cripples learn to use their deformed limbs and where they make orthopædic appliances.

Disinfection of the Skin.

Professor König of Altona, writing in the *Berliner Klinische Wochenschrift*, states that in treating recent injuries he avoids cleaning the surrounding skin, but only covers it with a tincture of iodine. For this purpose he keeps ready a number of sterilised swabs of cotton wool in a sterilised glass vessel. In wounds of the skull the hair is shaved dry. Of 251 injuries treated in this method only three gave any trouble in healing. Professor König claims that the alcohol contained in the tincture hardens the skin and fixes the bacteria, and that the iodine has a bactericidal action. Moreover, it produces slight hyperæmia which promotes effective healing. This proceeding can be also recommended in operating for purulent, septic, and gangrenous conditions, where the usual cleansing with soap and water is obnoxious because it may spread the germs from the diseased part to the neighbouring healthy skin. In infection by bacillus pyocyaneus the colour and the smell of the purulent discharge disappear. The author further points out that when a patient previous to a major operation is disinfected by the usual wet method his skin must be exposed for a considerable time, which is inadvisable for elderly or unhealthy people. He has used the iodine method of disinfection even in laparotomies with excellent results. The iodine tincture does not, as a rule, produce eczema on a dry skin, except in certain regions such as that of the scrotum. In major operations the author recommends that patients should be bathed early and the iodine employed only after the skin has dried. After the operation the tincture of iodine is again applied on the sutures and the surrounding skin.

May 11th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Inoculation for Cholera.

COMPARATIVELY little has been heard of late years of inoculation for cholera, probably because there have been no serious epidemics of the disease in large towns or cantonments. The matter has, however, not been lost sight of in one quarter. The number of labourers required for the Assam tea-gardens annually runs into many thousands, and cholera occasionally breaks out among them on the journey. Last year the railway authorities on the Assam and Bengal line were asked to have a hospital carriage on each train carrying coolies, but this was found to be impracticable. Measures were, however, taken to supply fresh water, to disinfect carriages, and to provide accommodation at certain stations for sick persons. Another and more scientific method of preventing any outbreaks is to inoculate the coolies before starting. Correspondence on this subject is mentioned in the annual report of the Indian Tea Association just published. Professor Haffkine, to whom a reference has been made, stated that the inoculation process had been greatly simplified, one dose of serum only being now required, and that only 24 hours' rest is necessary after treatment. It might all the same be advisable to detain persons four or five days before entering infected districts or embarking on steamers, so that a satisfactory state of immunity might be secured. The association has now decided to ask members whether it would be advisable to approach Government on the subject. It would appear, however, that unless the various recruiting agencies act in common no good results can be obtained. Some years ago one firm of labour contractors at Purulia introduced inoculation and carried it on for several seasons. Their business, however, was prejudiced, and they had to discontinue the practice. Professor Haffkine suggests that no undue pressure should be put upon the coolies, only those being inoculated who understood the benefits to be derived, and that efforts should be made to induce the different labour agencies to agree upon a uniform attitude in the matter. This seems the only way in which to gain a fair measure of success, and the Tea Association should be able to bring about such an agreement.

Blackwater Fever.

A letter has been received by the Indian Tea Association from the Government of Eastern Bengal and Assam, stating that as the Fever Commission which had been making investigations in the Dooars was entirely under the control of the Government of India, the Lieutenant-Governor of Bengal did not consider that he would be justified in recommending an extension of the inquiry to Assam until he was in possession of more detailed information regarding the prevalence of the disease there. Orders had accordingly been issued to the Sanitary Commissioner of the province to report whether there were sufficient grounds to justify such a recommendation to the Government of India, and it was suggested that any facts collected, as well as the opinions of medical officers on tea estates, might be communicated to the Sanitary Commissioner. A copy of this letter has been forwarded to the chairman of the Assam branch for his information. It is expected that he will be taking steps to obtain evidence on the lines suggested by Government.

Calcutta Hospitals.

Recent years have witnessed many improvements and developments in hospitals in Calcutta, notably, of course, the Presidency General Hospital and the extensive additions to the Medical College Hospital in the north of the city. The Government of Bengal has now placed the poor of Calcutta under an additional obligation by a much needed extension to the Campbell Hospital in Lower Circular-road. Here two large surgical blocks, one for male and the other for female patients, have been added, providing accommodation for 88 patients of each sex. Both blocks are two-storied and are similar in design, and their appearance from the outside is not unlike that of the new Presidency General Hospital, of course, in miniature. The estimated cost of the extension is Rs. 1,21,317.

Cattle and Game Disease in the Nilgiris.

A bad type of cattle disease is reported as prevalent. It seems that the disease affects game as well as domestic cattle, and that that grand animal, the bison, is perishing in numbers on the Mysore frontier. Travellers on the road between Jeppacandu and Seegoor have come across dead bison and were able to secure the heads and horns, which they brought in to have mounted. Some of these remains show that the best of the herds have thus perished.

Public Health in Bombay.

Plague continues very low in Bombay and the general good health of the city may be gauged from the statistics for January, which show that there were 260 fewer deaths in the month than was the case last January. During the last week of March there were six more plague cases than the week before, but plague is still lower for the time of year than it has been since 1896. The total mortality was 100 lower than in the corresponding week of last year; it was 700 lower than in the same week of 1905. The most satisfactory conclusion to be drawn from the plague figures up to date is that whatever may be the eventual intensity of this year's seasonal epidemic its onset has again been postponed. This means a shortening of the total period for which the city is in the grip of the disease, and last year plague began to decline in April. The rats caught in the raid in the Fort last week were only plague infected to the extent of 2 per cent., and there is trustworthy information that rats are undoubtedly more scarce than usual in the Fort, a state of affairs which may fairly be ascribed to the persistent campaign of the Health Department. A most unsatisfactory point in connexion with the city's health is the freedom with which small-pox is permitted to be imported. The small-pox epidemic is spreading. During the last week of March there were 63 attacks and 19 deaths, and of these cases 27 were imported in the persons of pilgrim passengers off the ships from Jeddah. These people are landed in Bombay suffering from small-pox, and an indefinite number of "contacts" among the ship's passengers are allowed to spread themselves freely through the city. Surely this is a way of deliberately importing disease and death into our midst which ought to receive immediate attention. Perhaps a means of putting a stop to it might be found with the help of the Hajis committee.

April 20th.

Obituary.

EDWARD GEORGE WHITTLE, M.D. LOND., F.R.C.S. ENG., L.R.C.P. LOND.

Dr. Edward George Whittle, who died at Las Palmas last week, for very many years was one of the leading medical men in Brighton. He retired from the profession a few years ago, but unfortunately did not enjoy very good health, and during the last few years was suffering from a heart affection. Early this year he went to Las Palmas in the hopes of deriving benefit from a warmer climate. He wrote home cheerfully, speaking of the progress he was making, and the news of his death came as a great blow to a very large circle of friends. Dr. Whittle received his professional education at University College Hospital, London. He became a Member of the Royal College of Surgeons in 1873, a Licentiate of the Royal College of Physicians and Bachelor of Medicine of the University of London in the next year. In 1876 he became a Fellow of the College of Surgeons and took his Doctorate in 1882. After settling in Brighton he was appointed surgeon to the Royal Alexandra Hospital for Children, and honorary physician to the Brighton and Hove Dispensary for Women and Children. He was the author of a work on "Congestive Neurasthenia; or Insomnia and Nerve Depression," and of several papers in this journal. At the Brighton Health Congress in 1881 he contributed a paper on the Artificial Dieting of Children, and at the annual meeting of the British Medical Association in 1886 read a paper on Melancholia and Insomnia in the Sane. His skill was widely known and he had a large practice both in Brighton and Hove. In 1891 he was elected President of the Brighton Medico-Chirurgical Society. Dr. Whittle was a man of remarkable energy. He indulged in many pastimes and was, perhaps, best known in the athletic world as a tennis player. Twice he gained the distinction of winning the veterans' singles in the All England championship at Eastbourne; also, with Mr. C. M. Perkins, the Veterans'

Shields, open to all England, and which were won outright. Dr. Whittle, too, was an ardent cyclist, a fine swimmer (for many years bathing in the sea all the year round), a skilful musician, and a prominent member of the Masonic craft. He was twice married.

GEORGE ROE CARTER, M.R.C.P. IREL., L.R.C.S. IREL.

Mr. G. Roe Carter, who died on May 3rd in his sixty-seventh year, was a well-known practitioner at Anerley, where for 30 years he enjoyed the confidence of a wide circle of friends and patients. He was also medical officer of health to the Penge urban district council, and in that capacity did not a little towards improving the sanitary condition of the district over which he had charge. Mr. Carter was educated at Ledwich School, Dublin, and at the Meath Hospital. The early years of his professional life were spent at St. Lucia, where he was colonial surgeon and medical officer of health to the island. He was a Fellow of the Royal Institute of Public Health, a member of the Council of the Obstetrical and Gynæcological Section of the Royal Society of Medicine, and formerly a member of the Councils of the British Gynæcological Society and of the Irish Medical Schools and Graduates' Association.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Viscount Candido de Figueiredo Saboia, formerly professor of clinical surgery in Rio de Janeiro and foreign corresponding member of the Paris Academy of Medicine.—Dr. Louis B. Durocher, formerly professor of mental diseases and forensic medicine in Montreal.—Dr. Derville, assistant professor of clinical medicine in the University of Lille.

THE ROYAL SOCIETY CONVERSAZIONE.

SCIENCE was represented in very many directions at the conversazione of the Royal Society which was held at Burlington House on Wednesday last, May 12th. The electrician, the astronomer, the biologist, the physicist, the chemist, the medical man, each alike was certain to find an exhibit having some connexion more or less with his own particular branch of study. Opportunity seems to have been given also on this occasion to those interested in certain developments of applied science to exhibit its triumphs, and it should be added that the exhibits under this head were of general interest.

In the secretaries' room, for example, on the ground floor a most fascinating process for reducing metals to the state of ribbon was in operation. Nothing could be simpler than the method adopted, and since its application is likely to lead to the prevention of industrial poisoning, some prominence may be given to this innovation. Molten metal, it may be lead, tin, zinc, gold, aluminium, is caused to flow through one or more nozzles in a thin stream on to the periphery of a rapidly rotating water-cooled drum. The metal solidifies immediately and it is possible to obtain a ribbon of 1-1000th inch in thickness, and from half a mile to a mile can be obtained from each nozzle per minute. In the principal library Mr. S. Cowper Coles showed some beautiful specimens of glass parabolic mirrors coated with gold. The light reflected by these mirrors has a remarkable penetrating effect in foggy weather, and yet is softer in tone than the light from the silver mirror. Close by were some samples of pitchblende taken from the Cornish mine at Trenwith. Mr. Francis Fox explained that the best specimens contained 33 per cent. of uranium oxide, and from 150 to 200 milligrammes of radium per ton of ore. There were also some fine specimens of uranium salts shown.

One of the most remarkable exhibits was that shown by Professor Norman Collie. This consisted of various forms of glass tubes containing neon and mercury, which when shaken together, even at ordinary pressures, were seen to glow with a strange orange-red light. The phenomenon has, so far, received no explanation. Another interesting glow effect was shown by the Rev. H. V. Gill in his vacuum tubes containing a strip of palladium foil or palladinised platinum foil. On passing the current through the foil it became incandescent and around the incandescence appeared a beautiful purple-blue glow. Sir William Ramsay's exhibit of liquid radium emanation, a subject recently referred to in our columns, attracted considerable interest. It can be reduced to a solid which, when cooled further, phosphoresces very strongly and more intensely than does the gas.

As we have said, medical studies were well represented. Dr. A. D. Waller, for example, gave a demonstration of the electrical variation of the human heart and of the dog's heart on Einthoven's string galvonometer. The subject was Dr. Waller's own bull dog, who regarded the proceedings with a delightful air of amused resignation. He was connected with the galvanometer by standing with his near fore and off hind foot in two pans containing salt water and the electrodes. The apparatus was also fitted with vessels into which visitors could dip their hands and so see the diphasic variations in their own heart beats, but probably owing to the fact that the electrical resistance of the skin is very high, unless the part used has been soaked for some length of time, the human being did not show to such advantage as the dog. We intend shortly to publish a paper by Dr. Waller giving an account of Professor Einthoven's recent work in this field.

Dr. E. F. Bashford exhibited a fine series of diagrams illustrating the recent advances in the knowledge of cancer. The experimental production of sarcoma was illustrated for the first time in this exhibit, sarcoma being developed upon an antecedent carcinoma. Lieutenant-Colonel W. B. Leishman, R.A.M.C., presented microscopic specimens illustrating the transmission of tick fever. The various stages of the tick's life were also illustrated by living examples, and the microscopic specimens showed the alterations which the spirochætæ appear to undergo in their passage from one generation of tick to another. Mr. S. G. Shattock exhibited the microscopic section already referred to in our columns of the aorta of King Menephtah (traditionally regarded as the Pharaoh of the Exodus), showing senile calcification. Mr. L. Doncaster exhibited a beautiful collection of currant moths illustrating sex-inheritance, and Professor Karl Pearson, with Mr. E. Nettleship and Mr. C. H. Usher, presented to view a very interesting series of plates illustrating a forthcoming monograph on albinism. The Director of the Royal Gardens, Kew, showed his experiments with cyclamen seedlings, which normally have only one cotyledon; if this be entirely removed the second cotyledon will develop. If only the lamina be cut off a new lamina will bud out from the side of the leaf stalk near the apex, and on the removal of this second lamina a third can be induced to grow out from its stalk just below the apex. If the lamina be mutilated and not wholly removed, new growths will also be formed.

Sir Archibald Geikie, K.C.B., D.C.L., received the Fellows and guests, and there was a large and distinguished company present.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the First Professional Examination for the Licence in Dental Surgery held last week the following gentlemen were approved in the subjects indicated below:—

Mechanical Dentistry and Dental Metallurgy.—Robert Reginald Adams, Guy's Hospital; Sidney Roland Bacon, Royal Dental Hospital; Edwin Randolph Bailey, Guy's Hospital; Stanley Samuel Beare, National Dental Hospital; John Benson, Guy's Hospital; Walter Sydney Bevis, Royal Dental Hospital; Alfred Fisher Camp, Guy's Hospital; James Fernandez Howard Clarke, Royal Dental Hospital; Reginald Northey Curnow, Guy's Hospital; William Dood Dye, Royal Dental Hospital; Bernard John Geekie, National Dental Hospital; Gerald John Harborow, Royal Dental Hospital; Albert Henry Herbert, Birmingham University; Guy William Enston Holloway, Guy's Hospital; Eric Greaves Ireland, Royal Dental Hospital; Carl Joseph Oldham Jensen, Royal Dental Hospital; Stanley Lawson, Guy's Hospital; Donald Henry McDonald, Royal Dental Hospital; Harold Leonard Meyer, Guy's Hospital; William Davies Motton, Royal Dental Hospital; George Marshall Oakden, Royal Dental Hospital; Arthur Hugh Spencer Palmer, University College, Bristol; Fred Quayle, Royal Dental Hospital; John Hargrave Rhodes, Guy's Hospital; Charleton Edmund Rice, Guy's Hospital; Alfred Thomas Rycroft, Guy's Hospital; Sidney Saxton, University College, Bristol; Reginald Alfred Slade, University College, Bristol; Patrick Barry Stoner, Guy's Hospital; William Suffield, Durham University; Ernest Sutton Tait; Guy's Hospital; Arthur

Cyril Tuft, Royal Dental Hospital; Basil William Tyson, University College, Bristol; and George Trevor Yonge, Royal Dental Hospital.

Mechanical Dentistry.—Harold Edgar Bower, Royal Dental Hospital; Oscar Bullock, Royal Dental Hospital; Henry O'Neil Butler, Royal Dental Hospital; Henry Charles Corke, Guy's Hospital; Henry Oswald Dumayne, Guy's Hospital; John Eric Rhys Evans, Guy's Hospital; Frederick Amos Jaques, Guy's Hospital; Roy William List, Royal Dental Hospital; George Bertrand Lucas, Royal Dental Hospital; John Dudley Melhuish, University College, Bristol; Owen Colville Morphy, Royal Dental Hospital; Wilfrid Stephen Ollis, Guy's Hospital; Cyril Arthur Pollard, Guy's Hospital; Gordon Evelyn Rowstron, Guy's Hospital; Frank Percival Sturdee, Royal Dental Hospital; William Vere Taylor Styles, National Dental Hospital; and John Herbert Wiles, Guy's Hospital.

Dental Metallurgy.—Albert Bangert, Royal Dental Hospital; Henry James Burch, Guy's Hospital; Gordon Comyn, Royal Dental Hospital; Frederick Scott Cooper, Guy's Hospital; Joseph Copians, Royal Dental Hospital; Guy Leroy Gillett, Michigan University; Arthur Oliver Gray, Royal Dental Hospital; Robert Daniel Gregg, Liverpool University; Robert John Harley-Mason, Royal Dental Hospital; Harold Harrison, Guy's Hospital; Harold Holburn, Durham University; Samuel Carson Huggins, Dublin and Royal Dental Hospital; Frederic Winbolt Lewis, Royal Dental Hospital; Claude Vernon Osborne, University College, Bristol; Ronald Victor Payton, Birmingham University; Archie Ernest Frederick Peaty, Guy's Hospital; Cyril James Pridham, Royal Dental Hospital; Richard Angwin Rail, Royal Dental Hospital, Warren Longtoft Roberts, Leeds University; James Stacey Robinson, Birmingham University; George Wesley Royle, Royal Dental Hospital; Alfred Edmund Victor Spill, Guy's Hospital; Claude Taylor, Royal Dental Hospital; Charles Frederick Marling West, Royal Dental Hospital; Sidney White, Royal Dental Hospital; Charles Eustace Williams, Royal Dental Hospital; William Hector Wotton, Guy's Hospital; and Edgar Olyve Yerbury, Guy's Hospital.

FOREIGN UNIVERSITY INTELLIGENCE.—*Greifswald:* Professor Stern of Breslau, Director of the Medical Polyclinic there, has accepted the invitation to the chair of Medicine, together with the charge of the Medical Clinic.—*Lemberg:* Dr. Georg Modrakowski has been recognised as *privat-docent* of Pharmacology.—*Munich:* Dr. Heine of Königsberg has been appointed Extraordinary Professor of Otology in succession to the late Professor Bezold.

KING'S COLLEGE (UNIVERSITY OF LONDON).—The following two advanced courses of special lectures on Physiology will be delivered in the Physiological Laboratory, King's College, London, during the present term: 1. A course of eight lectures on the Senses of Hearing, Taste, and Smell, by Professor C. S. Myers, on Fridays (May 13th to June 25th), at 4.30 P.M. (This course was commenced on May 7th.) 2. A course of four lectures with experimental demonstrations on the Secretion of Urine, by Professor T. G. Brodie, on Mondays (June 7th to 28th), at 4.30 P.M. These courses are free to all internal students of the University of London and to all medical practitioners on presentation of their visiting cards.

DONATIONS AND BEQUESTS.—Lord Sandhurst, treasurer of St. Bartholomew's Hospital, has received from the Company of Merchant Taylors £500, being the first moiety of a further grant of £1000 towards the building fund of the hospital.—By the will of the late Mrs. M. M. F. MacEwan the London Hospital will receive £5000 and the Hospital for Incurables, Putney, £2000.—Under the will of the late Mrs. L. J. Grice the West Bromwich District Hospital will benefit by a sum of £1000.—The late Mr. John Smith of Adderley, Monifieth, Forfarshire, has by will left £2000 to the Dundee Royal Infirmary, £1000 to the Dundee Royal Victoria Hospital for Incurables, and £500 to the Gerard Cottage Hospital, Monifieth.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—A course of four lectures on Statistical Methods in Physiology and Medicine will be delivered in the physiological theatre of the College at 4.30 P.M. on Fridays, May 21st, June 4th, 11th, and 18th, by Mr. M. Greenwood, jun. (director of the London Hospital Statistical Department and senior demonstrator of physiology in the Medical College). The lectures will deal with: I. General objects of the theory of probability, its relation to observational and experimental science; some practical applications of elementary principles to examples of medical interest. II. Variation and its quantitative study, illustrations of method: (1) phagocytic counts and (2) age incidence of diseases. The conception of a "probable error," with examples. III. Correlation and its quantitative study, illustrations: (1) weights of viscera; (2) caisson disease and body weight; (3) incidence of plague in rats and men; and (4) incidence of phthisis in husband and wife. IV. Statistical fallacies, material fallacies, and analytical fallacies, with illustrations. This course, which has been approved by the Senate under the scheme for advanced lectures in physiology, is free to all students of the University and others on presentation of their visiting cards. It is proposed to hold a practical class in connexion with this course, for particulars respecting which applications should be addressed to the Warden of London Hospital Medical College.

THE CHEMISTS' EXHIBITION.—The organisation of this annual exhibition is evidently a success, since the present year witnesses the fifteenth of the series. The proceedings were opened on May 10th and the Horticultural Hall in Vincent-square, Westminster, was again chosen for the occasion. It must be admitted that drugs and the multiple accessories of the trade provide an abundance of material wherewith to make the whole scene a picturesque one. The stalls were admirably arranged and the ingenuity with which the various goods were displayed was the subject of very general remark by the visitors, among whom were, besides those more or less interested in the commercial aspects of the exhibition, a good number of medical men and hospital nurses. Proprietary articles were fairly strongly represented and there were many examples to be seen of real pharmaceutical advances. The exhibition is in many ways instructive, and new ideas of value to medical men are almost certain to be gleaned from a visit to it.

BAD-NAUHEIM AT EVERSLEY, HANTS.—On Saturday, May 1st, a number of leading physicians from London and elsewhere availed themselves of the invitation of Dr. J. G. Garson to visit the Eversley Sanatoria and to inspect the new Nauheim baths he has recently erected there, which were opened to the public for the first time that day. The weather was fine and several of the company present motored down from town. The sanatoria are situated in one of the most beautiful and healthy districts of North Hampshire, familiar to many as that in which the late Charles Kingsley lived for many years while rector of the parish and where he wrote several of his best known works. The sanatoria comprise two distinct establishments, Moorcote and Glencote. In the former tuberculous cases are treated on the Nordrach system, while in the latter are received patients suffering from non-tuberculous ailments, such as affections of the heart and blood, disorders of the nervous system and metabolism, general debility, and convalescents after illness. It is in connexion with this latter establishment that the new bath-house for Nauheim and other baths has been inaugurated. The Moorcote Sanatorium for the Open-air Treatment of Tuberculosis has been established for ten years, but has during the last three years undergone many improvements at the hands of the present proprietor. The Glencote Sanatorium was opened for non-tuberculous patients about three years ago on the model of the Luisenheim at St. Blasien in the Black Forest. The arrangements for the housing and treatment as well as for the comfort and amusement of patients were shown. The sun and air bath situated in a clearance in the neighbouring woods and the tracts on the lawn for the practice of Frenkel exercises by patients suffering from locomotor ataxy are notable features of the armamenta available for the treatment of affections of the nervous system. After repeated visits to many German and other spas, Dr. Garson came to the conclusion that the most generally useful and efficient for the treatment of the greatest number of complaints are the Nauheim baths which have also been reproduced more or less perfectly in many health resorts in Germany, but usually very imperfectly in England. The special features of the Bad-Nauheim bath waters are that they contain alkaline salts, chiefly chlorides and bicarbonates, highly charged with carbonic acid gas, and they issue from the ground at temperatures varying from 30° to 34° C. according to the spring. The water is impregnated with the gas, but before the patient enters the bath no bubbling of the gas through the water is apparent, although on getting into it his body becomes at once covered over with a layer of exceedingly minute beads of carbonic acid gas which differences in temperature cause to be liberated from the water. To produce these saline carbonic acid baths artificially bicarbonate of soda and hydrochloric acid, besides the other essential salts of Nauheim bath water, have been employed, or CO_2 has been made to pass through finely perforated tubes placed on the floor of the bath tubs. To get a good artificial CO_2 bath,

however, the water used for the bath has to be charged under considerable pressure by means of suitable apparatus. Dr. Garson has procured from Berlin the newest and most improved apparatus for charging the water of the Nauheim baths at Eversley with CO_2 gas by which the highest degree of impregnation is obtained, and with it is able to produce the strongest CO_2 Nauheim baths or the weakest as required. The process by which this is effected was explained to the visitors. The chemicals used in the preparation of the baths are imported direct from Bad-Nauheim. The baths are taken on alternate days and are supplemented by drinking Nauheim waters, a stock of which has been procured. In heart cases Nauheim remedial gymnastics and massage are given on the days when the patient has no bath. The whole Bad-Nauheim treatment has therefore been arranged for and is now available for patients who prefer to have the treatment at home. Besides the Nauheim baths, pine and other medicated baths, Scotch douche, needle and rain baths have been installed. All the baths are available for patients at very moderate charges and at cost price to members of the medical profession requiring treatment.

THE RECENT POOR-LAW REPORT: A CONFERENCE.—With a view to attract public attention to the important matters raised in the report of the Royal Commission on the Poor-laws and Relief of Distress, the British Institute of Social Service has arranged for a two days' non-partisan conference in the Guildhall council chamber on the morning and afternoon of May 18th and 19th. The conference will be opened by the Lord Mayor. The intention is that after the paper has been read the chairman shall make a reply and that the meeting shall then be thrown open for discussion with a time-limit for speeches. No resolutions will be put to the meeting. The following programme has been arranged. Session No. 1.—May 18th, 11.30 A.M.: The Machinery Proposed, opened by Mr. Sidney Webb, L.C.C.; chairman, Mr. T. Hancock Nunn. Session No. 2.—May 18th, 3 P.M.: The Treatment of Infants and Children, opened by Mr. George Lansbury; chairman, the Earl of Stamford. Session No. 3.—May 19th, 11.30 A.M.: The Treatment of the Able-bodied, including the Unemployed, opened by the Rev. Russell Wakefield; chairman, Mr. Walter Hazell. Session No. 4.—May 19th, 3 P.M.: The Treatment of the Aged and Sick, opened by Mr. J. R. Brooke; chairman, Mr. Percy Alden, M.P.

THE ROYAL SANITARY INSTITUTE.—The annual dinner of the Royal Sanitary Institute took place on May 11th at the Langham Hotel under the chairmanship of the Duke of Northumberland, President of the Institute. About 80 members and their guests were present, including Sir Dyce Duckworth, who proposed the toast of "The Navy, the Army, and the Territorial Forces," reply being made by Sir Alfred Keogh. The latter, in response to interest audibly manifested by those present in his work in connexion with the Territorial Army, spoke in high terms of the zeal which he had found and which he had been able to stimulate and render effective in the direction of sanitary organisation in that branch of the service. He expressed the hope that such work would ultimately reduce the work of the hospitals in war more and more to the care of the wounded and relieve them of the necessity of providing for victims of disease. To the toast of "The Houses of Parliament," proposed by Sir Alexander Binnie, Sir Francis Sharp Powell, M.P., who, by the way, first sat in the House of Commons in 1857, replied, commending the "wholesome discontent and desire to move forward" which was responsible for useful reform. Next "The Royal Sanitary Institute" was proposed by the chairman, who alluded to the necessity which must arise out of a growing dissatisfaction at the advance of rates, for local authorities to press for State assistance to enable them to bear the burdens laid upon them by legislation. These burdens took the form of a *trinodis necessitas*, composed of roads, care of children, and sanitation. Mr. H. D. Searles-Wood, chairman of the Council, replied on behalf of the Institute. In replying to the toast of "The Guests," proposed by Mr. A. Wynter Blyth, Colonel T. W. Harding, President of the annual congress to be held at Leeds this year, promised the members of the institute a hospitable welcome at Leeds when they assemble for their congress in that city. Among those present in addition to names already mentioned were Sir Shirley Murphy, the Right Hon. Dr. Robert Farquharson, Sir John Tweedy, and Sir Henry Burdett. Colonel J. Lane Notter, deputy chairman of the Council; Dr. P. Boobbyer, chairman of the Exhibition Committee; Mr. Henry Adams, chairman of the Board of Examiners; and Mr. E. White Wallis, secretary to the Institute, also supported the President.

THE NEW PATHOLOGICAL BUILDING AT ST. BARTHOLOMEW'S HOSPITAL.—The new pathological extension of St. Bartholomew's Hospital, the foundation-stone of which was laid by Lady Ludlow at the end of 1907, was opened on May 7th by the Lord Mayor. The building, which was designed by Mr. E. B. I'Anson, architect to the hospital, is situated between the King Henry VIII. gateway and the hospital library and museum, and consists of six storeys containing laboratories for clinical and chemical pathology, morbid histology and bacteriology, and a pathological library and a post-mortem room. The Lord Mayor, who was received by Lord Sandhurst (treasurer), Dr. Norman Moore, Mr. Harrison Cripps, Dr. F. W. Andrewes, Dr. J. H. Drysdale, and Miss Stewart, was presented by the treasurer on behalf of the governors of the hospital with an address. In his reply, the Lord Mayor said that the opening of the pathological block meant the increased usefulness of the hospital, by which not only the citizens of London would benefit but the great world outside as well. The great advances that had been made in curative and preventive medicine during the past 20 years were due largely to the advances made in the study of pathology. The Lord Mayor concluded with an appeal to the City of London to support St. Bartholomew's Hospital.

INSTRUCTION IN METROPOLITAN FEVER HOSPITALS.—At a recent meeting of the Metropolitan Asylums Board the hospitals committee reported having considered a letter from Dr. H. R. Kenwood, professor of hygiene at University College, London, in which he asked, on behalf of members of his class in public health, whether "the existing conditions under which they are at present signed up for the three months' attendance upon a fever hospital which is required by the regulations for the diploma" can be modified. In pursuance of instructions the medical officer for general purposes (Dr. H. E. Cuff) submitted a full report on the whole subject, giving in detail the steps which led to the adoption of the present regulations, and pointing out that the present scheme does not accommodate itself to the circumstances of the large majority of the candidates for the diploma in public health. The existing arrangements require candidates who wish to study administration in the hospitals of the Board to reside therein. The committee had gone into the matter very carefully, and while it was of opinion that the present arrangements involving residence should be retained unaltered, they thought that steps should be taken, as suggested by Dr. Cuff in his report, to supplement the facilities now afforded by instituting at two of the Board's hospitals classes at which candidates for the diploma may receive instruction in administration without being compelled to enter into residence. They recommended:—

That, subject to the sanction of the Local Government Board, the existing facilities for the study of hospital administration afforded to candidates for the Diploma in Public Health be supplemented by the institution at two of the hospitals, as an experiment, of classes for the instruction of candidates in hospital administration without requiring them to enter into residence, and that the Local Government Board be furnished with a copy of the report on the subject by the medical officer for the general purposes.

This was agreed to without comment.

PROSECUTION OF A MEDICAL PRACTITIONER UNDER THE MIDWIVES ACT: SUMMONS DISMISSED.—At Eccles (Lancs) police court on May 10th a case was heard under Section XI. of the Midwives Act, in which Mr. George Sidley, L.R.C.P. Edin., was proceeded against by the Director of Public Prosecutions, who was represented by Mr. Lewis, for aiding and abetting Sarah Ann Marsh fraudulently to procure admission to the Midwives Roll, Marsh being charged with the major offence. Mr. Sidley was defended by Mr. F. W. Ogden, instructed by Mr. Hempson, solicitor to the Medical Defence Union. According to counsel's opening speech and the evidence Mr. Sidley, who is a prominent medical practitioner and an honorary surgeon to the hospital in Eccles, had

filled in a certificate stating that Sarah Ann Marsh had been in *bona-fide* practice as a midwife since 1899, and that she was trustworthy, sober, and of good moral character. This certificate was forwarded in due course to the Central Midwives Board and upon the strength of it Marsh was registered on the Board's roll in April, 1905, under Section II. of the Midwives Act. In February of this year she was convicted at the Eccles police court of being drunk and incapable. This fact was reported to the Central Midwives Board with the result that further inquiries were made and it was found that Marsh had been repeatedly convicted of similar offences in the same court, eight of these convictions having occurred before Mr. Sidley had given his certificate and four subsequently. On March 23rd her name was struck off the Roll of Midwives in consequence of these disclosures. The matter was brought before the Director of Public Prosecutions who considered that proceedings should be taken against Mr. Sidley for culpably reckless conduct in signing the certificate. The chief evidence for the prosecution was given by Mr. George William Duncan, secretary to the Central Midwives Board, and Inspector Howarth, who proved the convictions against Marsh. For the defence Mr. Ogden submitted that there was no evidence to prove that Mr. Sidley was aware of Marsh's convictions or drunkenness when he gave the certificate, and that his action in doing so had in no way been proved false or fraudulent. He had not even issued the certificate recklessly. Several near neighbours of Mrs. Marsh were unaware of her drinking habits, which could not therefore be rightly called notorious. Mr. Sidley had only certified that he had known Marsh for years and knew nothing wrong against her, which was quite true. Counsel asked the magistrates to dismiss the summons, and after a short deliberation the chairman announced that they were unanimous in doing so, but that Mrs. Marsh would be committed for trial at the next quarter sessions. We congratulate Mr. Sidley and the Medical Defence Union on the issue of the case.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Parliamentary Session.

PERHAPS it is rather soon to write definitely as to the probable length of the Parliamentary session. Members, however, are becoming convinced that it will extend further into the autumn months than is usually the case. In fact, one report is current that if the Government is to carry its Budget proposals substantially intact it will be September before Parliament is prorogued.

The Budget.

Some days and even weeks often pass before the ramifications of an elaborate Budget are laid bare. The financial proposals of Mr. LLOYD GEORGE are more than usually complicated, and with respect to some of them modifications may be made after debate has revealed the incidence of the new imposts. For instance, the Chancellor of the Exchequer is giving careful consideration to the advisability of granting a special rebate on spirits used in the manufacture of medicine. With regard to the question of a rebate on the duty on the petrol used by medical men in their motor-cars, the Government exhibits less disposition to be conciliatory. There is no doubt that the question will be raised again when the petrol duty comes under the review of the House of Commons. The less party controversy is imparted into the matter and the more generally the demand for a rebate in favour of medical men comes from all quarters of the House, the more likely is the Government to differentiate in this particular case.

Metropolitan Ambulances Bill.

In a memorandum to his Metropolitan Ambulances Bill, Sir WILLIAM COLLINS briefly outlines the history of the subject with which it deals. In 1906 the London County Council sought powers from Parliament to establish and maintain and to aid the establishment and maintenance of an efficient ambulance service for cases of street accident and illness occurring in London. The clauses embodying these proposals obtained the assent of the Commons but failed to obtain the approval of the Lords. Then came a Departmental Committee under the auspices of the Home Office, and its report and recommendations have recently been issued and their main provisions set forth in THE LANCET. One of the points on which the Committee was divided was the authority which was to administer the ambulance service. Sir WILLIAM COLLINS differed from his colleagues in preferring the London County Council for this purpose to the Metropolitan Asylums Board. The Home Secretary has the subject under his consideration, but in the meantime Sir WILLIAM COLLINS has produced a Bill giving effect to his views. He states that it virtually reproduces the powers sought by the London County Council three years ago. The single operative clause is designed to allow that body to constitute the administrative machinery and acquire the lands and buildings necessary for the establishment and maintenance of an ambulance service. In presenting the Bill Sir WILLIAM COLLINS has the support of Colonel LOCKWOOD, Sir WALTER FOSTER, Sir WILLIAM BULL, Mr. DICKINSON, Mr. CORRIE GRANT, Mr. STEADMAN, Mr. STRAUS, Mr. J. W. WILSON, and Mr. WATERLOW.

East India (Contagious Diseases) Return.

Nearly 11 months have elapsed between the date on which the return with regard to contagious diseases in India was ordered by the House of Commons and its publication this week. It shows in respect of each cantonment or other place where soldiers are stationed in India the methods in force for dealing with women suffering from venereal disease.

The Medical Acts (Amendment) Bill.

Mr. COOPER'S Medical Acts (Amendment) Bill, which deals with the administration of anæsthetics, has up to the present failed to secure a second reading. The motions for its rejection still remain on the notice paper. Mr. COOPER has indicated his willingness to have the Bill referred to a Select Committee by giving notice of a motion to do so after it has received a second reading. One of the advantages of sending a Bill to a Select Committee is that evidence both for and against its proposals may be heard. On the other hand, when a Bill does go to a Select Committee the delay occasioned by the hearing of witnesses and the preparation of a report is generally fatal to its progress during that session. If a good case is made out for it before the Committee it is placed in a stronger Parliamentary position in the following year.

Milk Legislation.

Mr. BURNS, the President of the Local Government Board, has not yet had an opportunity of introducing the promised Bill on milk-supply. At present the Budget monopolises the time and energies of the House of Commons, and this fact would be an obstacle to the progress of the measure if it were introduced. Although the right honourable gentleman has the Bill drafted and is desirous of submitting it to Parliament, those who are anxious to see it formally placed before the House are beginning to despair of its introduction before Whitsuntide. The longer the measure is delayed the less probable does its passage into law this year become. No one doubts the desire of Mr. BURNS to carry legislation on the important subject of milk-supply, but sometimes the best intentions of a Minister are checked by the obstacle of a crowded Parliamentary session.

HOUSE OF COMMONS.

WEDNESDAY, MAY 5TH.

The Recommendations of the Belfast Health Commission.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state what steps, if any, had been taken to carry out the recommendations of the Belfast Health Commission.—Mr. BIRRELL furnished the following written reply: The recommendations of the Belfast Health Commission were so various and complex that it is impracticable to give a general answer to this question which would accurately cover all details. The corporation dealt with certain matters pending the issue of the report of the Commission, and has put other matters in train since its issue. The Local Government Board, moreover, after considering the reply of the corporation to the report of the Commission, addressed the corporation on March 13th last with regard to such of the recommendations as did not appear to have received suitable attention.

Poor-law Medical Relief to Married Women.

Mr. BENNETT asked the President of the Local Government Board whether his attention had been called to Dr. J. C. McVail's statements in his Report to the Poor-law Commissioners that in some unions married women who were ill and needed relief in the workhouse infirmary were unable to obtain it unless the husband himself came into the workhouse, because the guardians believed that they could not legally admit a wife without a husband; whether he had noticed the case where the guardians believed that they could not take into the workhouse a mother and three children who were suffering from itch unless the father (who was free from that complaint) came in also; and whether he would send a circular to the Poor-law inspectors and guardians informing them that married women and children who were destitute of the medical attendance, nursing, and accommodation requisite for their condition of illness might legally be admitted to the workhouse infirmary without the husband or father coming into the workhouse.—Mr. BURNS wrote in reply: In Poor-law unions in which the Outdoor Relief Prohibitory Order is in force an able-bodied person requiring relief must be relieved in the workhouse, together with such of the family of such person as may be resident with him or her and may not be in employment. This rule, however, is subject to exceptions in certain cases, one of which is where the person requires relief on account of any sickness, accident, or bodily or mental infirmity affecting such person or any of his or her family. The inspectors are well aware of the law on this point and I have no reason to suppose that guardians and their officers generally are not acquainted with it. I will, however, instruct the inspectors in their communications with the guardians and their officers to bear the matter in mind and to remove any misapprehension which they may find to exist with regard to it.

THURSDAY, MAY 6TH.

The Duty on Spirits and the Price of Medicines.

Mr. LONSDALE asked the Chancellor of the Exchequer whether his attention had been called to the fact that one effect of the proposed

increase of 3s. 9d. per gallon in the duty on proof spirit would be an advance in the price of many medicines; and whether he would consider the advisability of granting a special rebate on spirits used in the manufacture of medicine.—Mr. LLOYD GEORGE replied: I have received on this point a certain number of letters to which I am giving careful consideration.

The Death of a Child by Burning.

Mr. B. S. STRAUS asked the Secretary of State for the Home Department whether his attention had been called to the remark made by the Southwark coroner at a recent inquest on a child whose clothes had been set on fire by a gas grill that such a case was not contemplated by the framers of the Children Act; and whether he would consider the propriety of amending the law in order to secure that all fires were properly guarded.—Mr. GLADSTONE furnished the following written answer: The coroner reports to me that in the case referred to in the question the child climbed upon a chair to reach a bag hanging on the wall over a gas grill stove, with the result that her clothes caught fire. It is impossible to provide by Act of Parliament against every source of danger. The provision in the Children Act was intended to meet the common cases of open fire grates, but I am afraid that it would be impossible to prevent accidents in such exceptional circumstances as occurred in this case.

The New Public Abattoir at Belfast.

In answer to Mr. DEVLIN, Mr. BIRRELL (Chief Secretary to the Lord Lieutenant for Ireland) replied: The Belfast corporation last autumn decided to proceed with the erection of a new abattoir and the necessary plans had been completed. The corporation deferred taking further action pending consideration of a report to be made by a deputation to visit abattoirs in other countries. The Local Government Board understand that the report will shortly be laid before the corporation.

Liverpool Milk-supply.

Mr. TYSON WILSON asked the President of the Local Government Board whether his attention had been called to a report given to the Shropshire county council by the sanitary committee upon a complaint made by the Liverpool sanitary authority that tuberculous milk was being sent to that city from the Market Drayton district; whether he was aware that, upon investigations being made, one cow was found to be in an advanced state of tuberculosis, the cowhouses and cattle in a dirty and neglected state, and that the diseased cow was sold and removed from the district and lost sight of; and whether, in these circumstances, he would take action in this case with the object of preventing the sale of tuberculous milk and meat.—Mr. BURNS wrote in reply: I have seen a report to the sanitary committee of the Salop county council by the county medical officer of health with regard to this matter. According to that report the facts are as stated in the question. I find from the clerk to the Drayton urban district council that their sanitary inspector attended the auction at which the cow was sold. He had reason to suppose that it would be sent either to Stoke-upon-Trent or to Newport and he communicated with the inspectors of both places. He subsequently received information showing that the cow had in fact been sent to Newport and slaughtered there, that it had been found unfit for human food, and had been given to pigs. I understand that the cow had been dry for a month or six weeks prior to its sale and that as soon as it was found to be diseased it was kept isolated. After the sale the cowshed was thoroughly disinfected. There were, as stated in the question, defects in the cowshed and the district council caused the attention of the agent of the property to be drawn to them. The defects are being remedied. The case does not seem to call for further action. The local authorities and their officers appear to have taken all practicable steps to deal with it.

MONDAY, MAY 10TH.

Medical Men and the Petrol Duty.

Mr. JOYNSON-HICKS asked the Chancellor of the Exchequer whether, having regard to the fact that he was proposing to place only half the additional tax upon motor-cars owned by medical men for use in their profession, he would, on the same principle, give them a rebate upon the petrol they consumed.—Mr. LLOYD-GEORGE replied: I am already making a considerable concession to medical men in respect of the licences for their motor-cars, and I am inclined to doubt whether there is sufficient reason for also granting them a rebate on the petrol which they consume.

Mr. JOYNSON-HICKS: Will the right honourable gentleman receive a deputation on the subject? Medical men use a lot of petrol.

Mr. LLOYD-GEORGE: I never like to refuse to receive any representations from any interest affected by Bills with which I am concerned. It is all a question of time. If I can, I shall meet any deputation which is representative.

Mr. CHIOZZA MONEY: Will my right honourable friend give consideration to the fact that the extra cost of petrol to medical men is, in fact, a special income-tax in so much as they use petrol in relation to their profession? At least, it seems to me a special income-tax.

No reply was given.

Mentally Defective Persons in Workhouses.

Mr. JOYNSON-HICKS asked the President of the Local Government Board whether he was aware that there were 11,000 certified and 60,000 uncertified mentally defective persons in workhouses, living and sleeping in the same rooms as persons of sound mind; whether, beginning with the Royal Commission of 1834 and ending with the recent Poor-law Commission, every Commission had reported against the continuance of this condition of affairs; and, if so, what steps he proposed to take, and when, to carry out the unanimous recommendations of such Commissions.—Mr. BURNS answered: I do not think that the figures are quite as stated in the question, but I am aware that several Royal Commissions have made recommendations on the matter referred to in it. They will receive consideration when the subject of Poor-law reform is dealt with by the Government.

Tuberculous Cows.

Mr. STANIER asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether the Board could schedule tuberculosis of the udder as a notifiable disease; and, if so, did the Board mean to proceed to do so.—Sir EDWARD STRACHEY replied: The Board has power to schedule tuberculosis of the udder as a notifiable disease under the Diseases of Animals Acts, and the advisability of doing so is under consideration.

Belfast Sewage Scheme.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state what steps, if any, had been taken with regard to the proposed loan to the Belfast corporation for the carrying out of the Sydenham and Knock sewerage scheme; and what was the present position in regard to this matter.—Mr. BIRRELL answered: A local inquiry has been held in connexion with this scheme and the Local Government Board addressed the corporation on April 27th regarding the proposed method of treating the sewage. The matter is still under consideration.

TUESDAY, MAY 11TH.

Deaths from Anæsthetics.

Mr. COOPER asked the Home Secretary to state (1) the number of persons who had died under an anæsthetic during the years 1907 and 1908, and (2) the number of persons who had died under the influence of nitrous oxide during the last five years.—Mr. HERBERT SAMUEL furnished the following reply (on behalf of Mr. GLADSTONE): The following are the only figures that can be furnished at present. They relate only to England and Wales. The deaths of persons returned on medical or coroners' certificates as due to anæsthetics administered for surgical purposes are as follows:—

Year.	All anæsthetics (including nitrous oxide).	Nitrous oxide.
1903	146	5
1904	156	1
1905	155	1
1906	183	3
1907	186	3

The figures for the year 1908 are not yet available.

WEDNESDAY, MAY 12TH.

The Medical Inspection of Boarded-out Children.

Mr. WALTER ROCH asked the President of the Local Government Board whether he had had under his consideration the statement made in the Minority Report of the Royal Commission on the Poor-law that the children boarded out beyond the union were not as a rule medically inspected; and whether any steps were being taken to remedy this state of things.—Mr. BURNS answered: I have seen the statement referred to. Provision is made in the agreements between the boards of guardians and boarding-out committees for arrangements being made with a medical man for attendance in cases of sickness and with a dentist for the care of the children's teeth. The foster parent undertakes in the case of the illness of a child boarded out with him to report the matter to the committee, the house is visited once in six weeks by a member of the committee, and a report is sent to the guardians at least once a quarter on the apparent bodily condition of the child. There is no special provision requiring the children to be periodically inspected by a medical man, though this is done in a good many instances, but as they attend the public elementary schools they are subject to the same medical inspection as other children attending these schools.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

Lectures to Practising Midwives. By Victoria E. M. Bennett, M.B., B.S. Lond., D.P.H. Camb. With Preface by Mrs. Mary Scharlieb, M.D., M.S. Lond. Price 4s. net.

BOOT, JESSE, Chairman, COMPANY CHEMISTS' ASSOCIATION, London.

The Pharmacy Acts, 1851 to 1908. By Hugh H. L. Bellot, M.A., D.C.L., Barrister-at-Law. With a Foreword by Jesse Boot. Price 3s. 6d.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

Parenthood and Race Culture. An Outline of Eugenics. By Caleb Williams Saleeby, M.D., Ch.B., F.Z.S., F.R.S. Edin. Price 7s. 6d. net.

CAXTON PUBLISHING COMPANY, London.

The Edinburgh Stereoscopic Atlas of Obstetrics. Edited by G. F. Barbour Simpson, M.D., F.R.C.P.E., F.R.C.S.E., F.R.S.E., and Edward Burnet, B.A., M.B., Ch.B., B.Sc. With a Preface by Sir J. Halliday Croom, M.D., F.R.C.P.E., F.R.C.S.E., F.R.S.E. Section IV. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARNOLD, MILES B., M.D. Vict., D.P.H. Cantab., has been appointed Medical Superintendent of the Manchester City Fever Hospital.

EVERIDGE, J., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at King's College Hospital.

GAUNTLETT, E. G., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Physician at King's College Hospital.

GAUNTLETT, H. L., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Accoucheur at King's College Hospital.

GIBSON, H. E., M.B., B.Ch. Oxon., has been appointed House Surgeon at King's College Hospital.

GIUSEPPI, P. L., M.B. Lond., F.R.C.S. Eng., has been appointed Junior Resident Medical Officer at Queen Charlotte's Hospital.

HUGHES, BASIL, M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician at King's College Hospital.

MCCALL, J., L.R.C.P. Edin., has been appointed House Surgeon and Secretary to the Hertford County Hospital.

MCDONALD, C. E. W., M.R.C.S., L.R.C.P. Lond., has been appointed House Accoucheur at King's College Hospital.

PORTER, CHARLES, M.D., C.M. Edin., M.R.C.P. Edin., has been appointed Medical Officer of Health of Marylebone.

PRESCOTT, N., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at King's College Hospital.

RANKEN, DAVID, M.B., B.S. Lond., M.B., B.S. Durh., has been appointed Resident Medical Officer at the Newcastle-on-Tyne Hospital for Sick Children.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERTILLERY URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £350 per annum.

ALBERT DOCK HOSPITAL, Connaught-road, E.—Senior House Surgeon and Registrar. Also House Surgeon. Salary of former £100 per annum, and of latter £50 per annum, with board, residence, and washing.

ASHTON-UNDER-LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, &c.

BARNSLEY, BECKETT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and lodging.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary £100 per annum, with apartments, board, and washing.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £170 per annum, with rooms, fire, lights, and attendance.

BIRMINGHAM INFIRMARY.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, rations, &c.

BRIGHTON, HOVE, and PRESTON DISPENSARY.—House Surgeon, unmarried. Salary £130 per annum, with board and residence.

BRITISH LYING-IN HOSPITAL, Endell-street, W.C.—Resident Medical Officer. Salary at rate of £50 per annum, with board, lodging, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and attendance.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with apartments, board, and laundry.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, also Assistant House Surgeon, both unmarried. Salaries £80 and £60 per annum respectively, with board and lodging.

CAPE COLONY, FRERE HOSPITAL, East London.—Resident Medical Officer. Salary £300 per annum.

CATERHAM ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, apartments, and laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Clinical Assistant.

DERBYSHIRE ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, &c.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Clinical Assistants.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician. Salary at rate of £60 per annum, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GUY'S HOSPITAL.—Two Ophthalmic Assistantships.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board and residence.

IPSWICH, EAST SUFFOLK HOSPITAL.—Senior House Surgeon. Salary £80 per annum.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Senior Assistant Medical Officer. Salary £150 per annum, with board, lodging, and attendance.

KIRKMABRECK PARISH COUNCIL.—Medical Officer. Salary £40 per annum.

LIVERPOOL, CITY OF, EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.

LONDON COUNTY ASYLUM, Colney Hatch, New Southgate.—Junior Assistant Medical Officer. Salary £160 per annum, with board, apartments, and washing.

MANCHESTER ROYAL INFIRMARY.—Surgical Registrar (non-resident). Salary £80 per annum.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salary £25, with board and residence.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board and residence.

NEW HOSPITAL FOR WOMEN.—House Physician, also Resident Medical Officer for the Maternity Department (females).

NOTTINGHAM GENERAL HOSPITAL.—Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

PADDINGTON INFIRMARY AND WORKHOUSE.—Assistant Medical Superintendent and Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

POOLE, CORNELIA HOSPITAL.—Honorary Ophthalmic Surgeon, Assistant Medical Officer to Out-patients, and Anæsthetist.

PORTSMOUTH WORKHOUSE AND INFIRMARY.—Second Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, &c.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Anæsthetist.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Medical Officer in charge of Electrical Department. Salary £50 per annum.

RAINHILL, NEAR LIVERPOOL, COUNTY ASYLUM.—Assistant Medical Officer for the summer months. Salary £4 4s. per week, with apartments and board.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £130 per annum, with board, lodging, washing, &c.

ROYAL PIMLICO DISPENSARY, 104, Buckingham Palace-road, S.W.—Resident Medical Officer and Secretary. Salary £100 per annum, with house, fire, light, &c.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, Strand, W.C.—Clinical Assistants.

ST. ANDREW'S UNIVERSITY.—Additional Examiners.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SHEFFIELD EDUCATION COMMITTEE.—Assistant Medical Officer for Elementary Schools. Salary £250 per annum.

SHEFFIELD, ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

SOUTHAMPTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £250 per annum.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—House Physician. Salary £100 per annum, with apartments, board, and washing.

SUFFOLK DISTRICT ASYLUM, Melton.—Second Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, attendance, and laundry.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Junior Resident Medical Officer, unmarried. Salary £80 per annum, with board, apartments, &c.

WALLINGFORD, BERKS COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £140 per annum, with board, apartments, attendance, &c.

WALSALL AND DISTRICT HOSPITAL.—House Surgeon, also Junior House Surgeon. Salary of former £100 and of latter £80 per annum, with board, residence, &c.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House Surgeon, also Junior House Surgeon. Salary of former £120 and of latter £100 per annum, with board, &c.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Locum Tenens Medical Officer, unmarried. Salary 4 guineas per week, with apartments, board, attendance, and washing.

WESTERN AUSTRALIA, STATE OF, MEDICAL AND HEALTH DEPARTMENT.—Medical Officer to the Central Board of Health. Salary £400 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.

WILTS COUNTY COUNCIL GENERAL EDUCATION COMMITTEE.—Senior and Junior Medical Inspectors of School Children. Salary of former £400 and of latter £250, with travelling expenses in each case.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Also Two House Surgeons. Salary of former £100 per annum, and of two latter £80 per annum, with board, lodging, and laundry.

The Secretary of State for the Home Department, Whitehall, S.W., gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for ophthalmic cases for County Court Circuits Nos. 13 and 18.

Births, Marriages, and Deaths.

BIRTHS.

GREENWOOD.—On May 9th, at "Reigate," Lower Park-road, Loughton, the wife of M. Greenwood, jun., M.R.C.S., L.R.C.P., of a son.

HARRIS.—On May 9th, at Wimpole-street, the wife of Dr. Wilfred Harris, F.R.C.P., of a son.

HAYMAN.—On May 8th, at "Harewood," Narborough-road, Leicester, the wife of S. Clifford Hayman, F.R.C.S., of a son.

STEAD.—On April 26th, at Ulcombeden, Hawkhurst, the wife of Chas. Clement Stead, M.B., of a son.

MARRIAGES.

BAKER—PARROTT.—On April 29th, at St. Mary's, Hayes, F. C. J. Baker, M.R.C.S., L.R.C.P., to Stella Caroline, younger daughter of E. J. Parrott, M.R.C.S., L.R.C.P., of The Thorn, Hayes, Middlesex.

DEATHS.

BODDY.—On May 6th, at Bloomfield-terrace, Sloane-square, Clarinda Boddy, M.D.

CHAFFERS.—On May 4th, at Abbotsrood, Grange-over-Sands, Edward Chaffers, F.R.C.S. Eng., J.P., aged 67 years.

THOMSON.—On May 7th, at Brisbane, Queensland, John Thomson, M.B., C.M. Edin., aged 61 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC INSTRUCTION CONCERNING CLEAN MILK.

THE county council of the West Riding of Yorkshire, in the early part of the year 1907, in conjunction with the county council of the East Riding of Yorkshire and the county boroughs of Bradford, Hull, Leeds, Rotherham, and Sheffield, appointed a committee to inquire into the conditions and sources of contamination of the milk-supply of the county. The report of the joint committee has been published, embodying the results of an exhaustive practical investigation by Dr. Thomas Orr, and the West Riding sanitary committee has expressed the opinion that it is desirable in the interests of the public health to disseminate, as widely as possible, the information which it contains. The committee has accordingly prepared three leaflets, which we have received and which are based upon the report, for distribution amongst (*a*) housewives; (*b*) farmers and dairymen; and (*c*) retail milk-sellers, and is requesting the borough councils to undertake to distribute the leaflets (*b*) and (*c*) to persons registered by corporations under the Dairies, Cowsheds, and Milk-shops Orders and liable to inspection. These leaflets are to be supplied free of charge for this purpose and the leaflet (*a*) is to be placed on sale for the benefit of any local sanitary authority desiring to distribute it, at a very moderate price, from Messrs. Sanderson and Clayton of Wakefield. It is much to be hoped that the authorities in question will give their full support to the scheme. The practical application of information conveyed by scientific reports is an encouraging sign of progress. Only too often in the past have such reports been received and forgotten. The leaflets which have been sent to us are written in plain and simple language and printed in clear type. They may well prove useful sanitary tracts throughout an area wider than the Ridings.

MEDICAL WOMEN REWARDED FOR GALLANTRY.

His Highness the Nizam of Hyderabad has graciously commanded that Miss Pinto and Miss Corea, house surgeons at the Victoria Zenana Hospital, be promoted to the grade of senior assistant surgeon in recognition of their gallant behaviour during the late disastrous flood. It will be remembered that these ladies refused to leave their charges, at their imminent personal risk, and instead helped to convey them to the point of comparative safety as the waters rose. The promotion involves a substantial increase of salary. His Highness has further ordered that all other employees of the hospital who were on duty on the night of the flood be recompensed with a gift of three months' salary in addition to half the value of any losses they sustained. We learn from the *Times of India* that this act of liberality has been greatly appreciated in the principality.

DERMATITIS DUE TO VANILLA.

To the Editor of THE LANCET.

SIR,—A Hindoo boy, aged 18 years, after handling ripe vanilla pods, rubbed his face and chest with his hands. He applied subsequently for treatment, presenting acute conjunctivitis of both eyes, a swollen face covered with pustules, and with sores caused by scratching them. His chest, abdomen, legs, and arms on their flexor surfaces were almost covered with minute discrete pustules, which gave rise to intense itching. His temperature was 101° F. He complained of frequency of micturition with pain or feeling of heat when micturating, which act produced only small quantities of urine.

Some other coolies doing the same work, which involves handling the ripe pods of vanilla, have been affected in the same way, but not so severely. I can find no account in any book I have of vanilla causing an eruption.—I am, Sir, yours faithfully,

R. F. HILEY, M.R.C.S. Eng., L.M.S.S.A. Lond.,
Medical Officer to South Coorg Medical Fund.

Sidapur, Coorg, India, April 14th, 1909.

*** Dermatitis among workers in vanilla has been noted before (see THE LANCET, Feb. 16th, 1907, p. 469, and Nov. 24th, 1906, p. 1478), but the exact cause is not settled. The eruption has been variously attributed to the principles of the vanilla, to the moulds with which the pods are sometimes covered, and to the treatment applied to the pods to remove such moulds.—ED. L.

YELLOW FEVER IN BRITISH HONDURAS IN 1905.

Sir Rubert Boyce's recent visit to Barbados at the request of the Colonial Office to investigate and advise upon the prevalence of yellow fever in that island during the present year, has revived interest in the report which he prepared in 1906 on an outbreak of the same disease that had occurred in the autumn of 1905 in British Honduras. This report, though printed at the time, was apparently not circulated in this country, nor were copies, seemingly, sent to the press. This omission was, no doubt, owing to the fact that the report was the property of the British Honduras Government, which had borne the cost of its preparation, and was probably meant by it for local circulation only. We presume, however, that the Colonial Office has now obtained copies for distribution, since one has recently reached us. It is, we think, a matter for regret that this report was not more widely made known when it was first printed. For at that time the text-books and works of reference did not contain full and detailed information concerning the mode of propagation of this dreaded disease, nor did they give a full account of the new methods which scientific observations had shown to be the best adapted for checking its spread. It is true that a small pamphlet was prepared in 1906 by Sir Rubert Boyce and sold for 1*d.*, containing a brief popular description of yellow fever and the way to prevent it. But this small pamphlet was evidently intended for widespread circulation among the West Indian Colonies, in order to familiarise the public with the chief points concerning the malady and its prevention. Such a pamphlet, it is evident, could not take the place of the detailed report in bringing the newly acquired information to the notice of the medical profession in this country. Since 1906 the knowledge of yellow fever has increased, and some of our text-books and works of reference have already been brought up to date, so that the collected facts and opinions which Sir Rubert Boyce put forward in 1906 have lost some, at least, of their novelty and freshness. Still, there is much in the report, as now issued, to interest and instruct the student of modern tropical medicine, notwithstanding that its somewhat belated distribution has, we fear, detracted from its former value.

GERMAN HOSPITALS.

A FREQUENT correspondent writes: "The number of hospitals in Prussia seems to have been rapidly increasing, for while in 1884 there were only 1155, there were 2411 in 1906. The number of beds at the latter date was 138,016 and the number of in-patients 1,036,161, of which 636,149 were males and 400,012 were females. In Saxony there has also been a considerable increase both in the number of hospitals and in the beds, though the gain is not so marked as in Prussia. Thus 98 hospitals with 5374 beds in 1887 increased to 145 hospitals with 10,439 beds in 1906. The Berlin municipal authorities have raised the daily charges which have to be paid by local and parochial bodies sending patients to 3 marks for Berliners and 3.50 marks for those from a distance. Children and adults have to be paid for at the same rate. Other German hospitals are also raising their charges; thus at Kiel 3.50 marks have to be paid for local patients and 5 marks for others."

A NEW DISINFECTOR FOR TELEPHONES.

WE have received from the Telephone Disinfector Company (Messrs. Baer, Bechmann and Co.), of 55, Hatton-garden, London, E.C., a sanitary appliance for the mouthpiece of telephones. It consists of a metal collar fitting by a spring over the mouthpiece and having hinged to it a disc which forms a cover for the mouthpiece. The central portion of this disc is covered with celluloid on its outer side. When the telephone is to be used this cover or lid is opened by touching a small metal catch, and it is closed as readily by the pressure of the finger and thumb. The essential disinfecting part of the apparatus consists of a hemispherical wire basket, about one and a quarter inches in diameter and half an inch in depth, which is screwed on to the inner side of the cover and projects into the mouthpiece of the telephone. It is filled with a brownish crystalline solid substance which has a strong odour of thymol and which impregnates the interior of the mouthpiece, when the lid is closed in the intervals of its use, with a volatile and aromatic disinfectant. Refill cakes of the antiseptic substance are supplied with the instrument. We have not conducted any bacteriological experiments to test the efficacy of the appliance, but from the thorough manner in which an obviously effective antiseptic is brought into contact with the interior of the mouthpiece we consider it to afford a trustworthy means of protecting the users of telephones from infection. Certainly all public instruments should be safeguarded from the saliva of their consumptive and syphilitic patrons, and we have seen no apparatus that appears better adapted for the purpose than this. We can also testify from a trial of the appliance that its use does not add to the inconveniences of telephonic communication.

NORTH INDIA SCHOOL OF MEDICINE FOR CHRISTIAN WOMEN.

THE annual meeting in support of the North India School of Medicine for Christian Women (Ludhiana, Punjab) was held on May 5th in the Trinity Church House, Great Portland-street, London, W., Colonel Parry Nisbet, C.I.E., being in the chair. The fourteenth annual report showed that in every department there had been a steady advance during the past year. At the hospital 19,671 out-patients had paid 59,800 visits. The average number of beds occupied had been 76, and during the past year 1100 operations had been performed. The number of in-patients during the year 1908 was 1255. Dr. Constance Cooper, who had just returned to England from a three months' stay at the hospital, gave an interesting account of the nature and methods of the work, which she said was highly appreciated by the authorities in India. She hoped that one result of her speech might be a much-needed increase in the medical staff, which at the present moment was sadly overworked. From intimate knowledge of what was going on, both in the hospital and in the school, the speaker was convinced that the work at Ludhiana presented great opportunities from a medical and from a Christian point of view. The patients came from far distances,

even from beyond Lahore. Not only was this true of the poor and ignorant, but even high caste Hindu women had sought medical treatment. As far as was possible, Mohammedans and Hindus were separated in the hospital, and there were also separate departments for medical and surgical cases. Dr. Edith M. Brown, under whose superintendence the work is conducted at Ludhiana, was stated to be exercising a great influence for good among the high caste Hindus in the city. The institution was more than an ordinary mission hospital. It was also an important training place for native Christians whose subsequent work in different parts of the land was of the greatest importance and value. In the training school there were from 40 to 50 students, who were most attentive to their studies. Special attention was called to the need of a large steriliser in the hospital, and in conclusion emphasis was laid on the importance of training girls to go to all parts of India. The work had been repeatedly commended by the Government Inspector-General, but money and workers were needed. At least five or six fully qualified medical officers were imperatively necessary if the institution was to do all that might be accomplished. Dr. Heywood Smith spoke of the missionary aspect of the work, and subsequently Colonel Parry Nisbet, who has had a long knowledge of Ludhiana, expressed his hearty sympathy with the work of the school and hospital. He had often, he said, known medicine to be the handmaid of Gospel teaching. He very cordially endorsed the appeal which had been made for urgently needed financial support and personal service. Miss Mabel W. Brown, 91, College-road, Bromley, Kent, it may be added, is the secretary of the institution.

Feverish.—We recommend our correspondent not to bring the matter before the district council, at any rate until he has been resident in the district longer. The arrangement which he describes is open to criticism as being unfair to the general practitioner, but, on the other hand, the district council is responsible to the public and naturally desires therefore to have the hospital managed by an officer of its own. As the hospital is not at all large, and according to our correspondent "is more often empty than not," the number of fees which the medical officer receives, a part of which is undoubtedly contributed by our correspondent, can be but very small. The second point—viz., that the medical officer of health by being constituted "a fever doctor" may obtain unfair opportunities for increasing his private practice at the expense of his professional brethren—is an abiding grievance under the Notification of Diseases Act since that Act came into force. We are happy, however, to say that the number of cases where this abuse can be shown to exist grows smaller and smaller.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—Arthur Whitfield, E. G. Graham Little): at 5 P.M.

Dr. Louis Wickham: Demonstration of Radium Therapeutics.

FRIDAY.

EPIDEMIOLOGICAL SECTION (Hon. Secretaries—W. H. Hamer, G. S. Buchanan): at 8.30 P.M.

Papers:

Dr. John Brownlee: Certain Considerations on the Causation and Course of Epidemics.

Mr. M. Greenwood, jun.: The Problem of Marital Infection in Pulmonary Tuberculosis.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Reception by the President. 9 P.M., Oration:—Dr. H. D. Rolleston: On the Classification and Nomenclature of Diseases, with Remarks on Diseases due to Treatment. Music, Smoking, &c.

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor-street, King's-road, S.W.

TUESDAY.—8.30 P.M., Annual General Meeting. Election of Officers for the ensuing Session, 1909-10. Dr. Vivian Orr: Intra-spinal Anæsthesia in Surgery.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Major H. W. Grattan, R.A.M.C., and Captain A. L. A. Webb, R.A.M.C.: Demonstration of the Method of Preparing and Standardising Typhoid Vaccine. (Postponed from May 12th).

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Adjourned Discussion on Beri-Beri. Communicated by Dr. A. T. Stanton: A Paper on Beri-Beri of Historic Interest, written by Dr. J. Bontius, of Batavia, in 1629.—Captain C. A. Gill, I.M.S. (Lahore): A Note on the Epidemiology of Pneumonic Plague.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. Morison: The Treatment of Cardiac Pains.

TUESDAY.—4 P.M., Dr. R. Hutchison: Clinique (Medical). 5.15 P.M., Lecture:—Dr. G. E. Herman: Some Points relating to Ectopic Pregnancy.

WEDNESDAY.—4 P.M., Mr. M. Collier: Clinique (Surgical). 5.15 P.M., Lecture:—Sir Thomas Oliver (Newcastle): Some Unusual Features of Lead Poisoning.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Mackenzie: A Demonstration of Graphic Methods for the Investigation of Cardio-Vascular Conditions.

FRIDAY.—4 P.M., Mr. Stuart-Low: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 4 P.M., Mr. Harman: Diseases of the Eyes. 5 P.M., Lecture:—Dr. Low: Insects as Carriers of Disease in Tropical Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Cole: Melancholia and Allied Conditions.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture:—Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Harman: How to Test the Vision of an Injured Eye—Workmen's Compensation.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles): 4.30 P.M., Demonstration:—Dr. G. N. Meachen: Selected Skin Cases.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Dr. A. G. Auld: Pulmonary Emphysema.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Hemiplegia.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.

TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.

WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.

THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.

FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Mr. I. G. French: Tracheoscopy, &c.
FRIDAY.—3.45 P.M., Lecture:—Dr. W. Wingrave: Clinical Pathology.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 13th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 7	30·20	E.	...	119	63	49	48	55	Fine
" 8	30·15	E.	...	118	63	46	47	55	Fine
" 9	30·02	E.	...	119	64	44	45	55	Fine
" 10	30·04	N.E.	...	108	58	46	46	49	Fine
" 11	3·19	S.W.	...	111	70	43	46	51	Fine
" 12	30·14	S.W.	...	119	72	49	52	58	Fine
" 13	30·28	N.E.	...	115	55	40	42	47	Fine

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